IN ONE MAN'S LIFE

Being Chapters from the Personal and Business Career of THEODORE N. VAIL

By ALBERT BIGELOW PAINE

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Theo. A. Vail

IN ONE MAN'S LIFE

Being Chapters from the
Personal & Business Career of
THEODORE N. VAIL

By Albert Bigelow Paine
Author of "Mark Twain: A Biography," Etc.

"Bell created the telephone and Vail created the telephone business"

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IN ONE MAN'S LIFE

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TO THAT LOYAL ARMY
OF MEN AND WOMEN WHO IN
PEACE AND IN WAR STOOD
BY THEIR GREAT CAPTAIN
KNOWING THAT HE IN TURN
STOOD FAITHFULLY BY THEM

Contents

CHAP.		PAGE
I.	The Day of the Pioneers	3
II.	A Little Boy from Ohio	7
III.	School Days	10
IV.	The Fascination of the Wires	14
V.	A Young Man in New York	18
VI.	A Young Man Goes West	24
VII.	The Diary Comes to an End	33
VIII.	Back to the Wires	36
IX.	A New World to Conquer	41
X.	Building a New Home	45
XI.	The Way of the Mails	52
XII.	Reforming the Railway Mails	58
XIII.	Second in Command	67
XIV.	The Fast Mail	72
XV.	Theodore N. Vail, General Superintendent	79
XVI.	The Hard and Devious Way of Office	82
XVII.	Last Days of Washington	89
XVIII.	The World Hears a New Voice	93
XIX.	Early Telephone Finances	98
XX.	The Telephone Company Acquires a Manager	107
XXI.	A Day of Great Beginnings	113
XXII.	Bringing Order Out of Chaos	123
XXIII.	Taking the Enemy into Camp	134
XXIV.	The Way of Prosperity	139
XXV.	Theodore N. Vail of Boston	146
XXVI.	The Descent of the Claimant	154
XXVII.	The Path of the Pioneer	159
XXVIII.	Facts, Figures, and an Important Change	167

Contents

CHAP.		PAGE
XXIX.	Speedwell Farms	175
XXX.	Long Lines, and Underground	178
XXXI.	The Strenuous Middle Years	186
XXXII.	Quiet Years	197
XXXIII.	Argentine Ventures	205
XXXIV.	Speedwell in its Glory	213
XXXV.	Years of Shadow	218
XXXVI.	The Return to Power	221
XXXVII.	Theodore N. Vail, President	231
XXXVIII.	Personality and Policies	236
XXXIX.	Taking Over the Western Union	245
XL.	Speedwell and the Hobby Club	251
XLI.	Talking Across the Continent	259
XLII.	Theodore Vail, Educator	266
XLIII.	Speech by Wireless	274
XLIV.	The Master of Speedwell at Home	284
XLV.	The Personal Side	289
XLVI.	Last Days of Peace	303
XLVII.	Telephone "Goes to War"	309
XLVIII.	Government Control	317
XLIX.	In Government Service	325
L.	Theodore N. Vail, Chairman	329
LI.	The Return of the Wires	333
LII.	The Westward Slope	338
LIII.	Where the Ways End	346
	Appendix	349
	Index	353

ILLUSTRATIONS

Theodore N. Vail	*Frontispiece*	
Early Pictures	*Facing p.*	12
Parents of Theodore N. Vail	"	30
The Four Telephone Pioneers	"	96
Theodore N. Vail about 1885	"	140
William H. Forbes about 1880	"	140
Four-in-hand, Walnut Avenue	"	188
The "Norna," 1887	"	188
Aboard the "Speedwell," 1912	"	188
Theodore N. Vail in 1898	"	222
Speedwell Farms, 1907	"	252

In One Man's Life

Chapter I: The Day of the Pioneers

THIS is the story of a man and a period. In the main it is a record of performance, with a somewhat inclusive background. We may call it history, therefore, rather than biography. Let us begin a little before the beginning.

About three hundred years ago there settled at Southampton, Long Island, a certain Thomas Vail (or Veale—they were not particular as to orthography in that day), one among those religious self-exiles who came to America early in the seventeenth century. The year of his arrival is not known, but in the Southampton records he is mentioned as an "inhabitant" as early as 1647. He must have been a farmer, for he owned a tract of land, but a portion of his time was given to "whale watching," which consisted in patrolling the beach to watch for cast-up whales—an important industry to those early settlers, who assembled at the first signal to secure the whale and divide up the valuable proceeds. Whale watching was a duty assigned in rotation to the more vigorous citizens of the community.

The wife of Thomas Vail, whose name was Sarah (probably, but not certainly, Wentworth), must have been a resolute person with a potent vocabulary, for it is set down in the records that once, when righteously defending herself in some debate, she used such masterful words that she was brought before a magistrate

and sentenced to stand with her tongue in a cleft stick "so long as the offense committed by her was read and declared."

These were hardy people, and their descendants were not weaklings. Thomas Vail's grandson, John Vail, a Quaker preacher as well as a carpenter and a farmer, became a pioneer missionary of his faith in New Jersey, and settled at Woodbridge about 1708. John's grandson, the first Davis Vail, in 1783 moved to Morristown, where he held public offices in township and county. Morristown, it should be said, was already a settled community, a place of good families.

It is about at this point that general history begins. Among the children of Davis Vail was a son named Stephen, the eldest, who in 1807 bought a half interest in a forge at Speedwell, near Morristown, and a few years later acquired the remaining half of the plant, which he enlarged and conducted with great vigor and success. It was at the Speedwell Iron Works, in 1818, that the engines of the *Savannah*, the first steamship to cross the Atlantic, were begun. They were completed within the year, and in 1819 the little vessel sailed from New York to Savannah, thence to Europe, as far as Russia, returning to America with "not a bolt loose," as her captain reported. At the Speedwell Iron Works, also, were manufactured important parts of the first American locomotives, and it was here in 1838 that Stephen Vail's son, Alfred Vail, with the inventor, Samuel F. B. Morse, gave the first public demonstration of the electro-magnetic telegraph. Stephen Vail's money had made this demonstration possible, and it was Alfred Vail who developed

Morse's idea, in time adding every device that made it practical, including the dot-and-dash system of writing.

We have digressed a little here for the honor of the family. We will return to the line of direct interest. Davis Vail's second son, Lewis Vail, was a civil engineer who early in the last century settled in Ohio, at that time a Western wilderness. Here he built canals, highways, bridges, dams—doing a pioneer's share in the reconstruction of the world.

Among the children of Lewis Vail was the second Davis Vail. Born, 1811, in Ohio, he came as a youth to Morristown, where for a time he studied medicine, then entered his uncle's manufacturing plant, the Speedwell Iron Works, to learn the trade. Here he remained until 1834; on November 27th of that year he married Phebe Quinby, daughter of Judge Isaac Quinby of Parsippany, and returned with her to Ohio where he established an ironworks on his own account.

We have seen that the Vails were a sturdy race, and the Quinbys were no less so. They also were of the religious exiles, and had been active in pioneering, politics, and warfare for more than two hundred years. Phebe Quinby's mother was a De Hart, of French Huguenot descent, and one of her immediate ancestors, John De Hart, had achieved patriotic distinction of a picturesque sort. He had signed a kind of preliminary Declaration of Independence, and had been raided for it by British soldiers. Somebody notified him that they were coming, and he left by the back door of his house in Morristown, with only his shirt on—his trousers thoughtfully carried in his hand. He

made several attempts to get them on between his house and Parsippany, but his pursuers pressed him too hard. It was not until he had run seven miles that he was able to pause long enough to get them properly in place and buttoned, and his "galluses" adjusted.

Chapter II: A Little Boy from Ohio

BY 1845 five children had been born to Davis and Phebe Vail, only two of which—Sarah (1838) and Emma (1842)—survived. But on July 16th of that year—they were then living in Carroll County, Ohio, near Minerva—another child came to them, this time a boy, one destined to give the family a distinction wider than it had hitherto known.

The new arrival was for a time called Lewis, after his grandfather, but presently his name was changed to Theodore Newton, for Phebe Quinby's brother who had died in childhood. When the little boy was about two years old Davis Vail brought his family back to New Jersey, where he again entered his uncle's employ, this time as head of the Speedwell works.

Davis Vail was a man of great probity and justice, and of no small ability; but he had not the gift of brilliant enterprise or of acquiring wealth. He was generous to a fault and would give whatever he had to anyone who took his fancy. Scrupulously honest, he would point out the defects rather than the virtues of whatever he had to sell. Skilled in his work, he could do nearly anything, but a student and a thinker rather than a business man, he was reasonably certain never to attain affluence. His wife, Phebe Vail, was a superior woman, with great strength of character, practical and executive, resolute, firm, at times even severe. It is said that great men mainly inherit from

their mothers, and, while Theodore Vail owed many fine qualities to his father, it would seem that it is chiefly to Phebe Vail that we may look for those gifts that later brought distinction to her son. We are not surprised to learn that she was a Presbyterian. Her husband had been raised a Quaker, but he quite naturally attended her church.

Four more children followed Theodore Newton: Isaac Quinby (1847), William Alonzo (1849), Mary Isabella (1855), Louisa De Hart (1861)—seven in all, which completed the family. Being a large family, it was more or less divided into cliques, and perfect harmony did not always prevail. The discipline was strict at times, and corporal punishment by no means unknown. We suspect that Phebe Quinby had a busy and convincing hand and that little Theodore (or "Doe," as he was called) did not always escape. His sister Emma, two years his senior, was his champion and chief support. In turn he became the defender of those below him. Long afterward he used to declare that he had more to do with bringing up the younger end of the family than his parents had; so perhaps his gift for directing the affairs of others was in some small degree manifested at an early age.

Theodore Vail's earliest recollection was of a house in Morristown, still standing, where they lived when he was three years old. A year or two later an uncle, Dr. William Vail, came to live with them, and had an office in their house. Once when his buggy was standing outside, the little boy was told to look after it. A big boy came along and pretended he was going to

drive it away. The small guard grabbed the whip and was about to attack the enemy when his uncle came out and interfered.

"Little Doe," or "Theo," was about the average child—rather willful, but inclined to be obedient, not averse to mischief. A cousin, George Vail, had a garden not far away, and was very proud of his melons. Next to the melon patch was an asparagus bed, that in summer grew tall and made a fine hiding place. Another cousin—a small one—and Doe used to hide in the asparagus, watching their chance to slip out and gather a melon, which they would take in there and enjoy. The owner of the garden wondered where his melons went to. In the fall when the asparagus was cut the crime was revealed, and the culprits got their reward, probably from the hand of Phebe Vail, on the spot where it would be most conclusive.

Chapter III: School Days

MEANTIME the future telephone magnate had started to school. A Miss Kirk taught about fifteen or twenty little folks, ranging in ages from four to six, in a small frame building. Doe Vail was not deeply interested in education. He was fond of his teacher, however, and perhaps acquired something besides the affection which her kindly heart gave to all her pupils. When the little boy was about ten years old he went to the public school at Morristown. Later, when the family moved to a farm at Morris Plains, he attended the public school there until he was about sixteen, entering then the Morristown Academy, walking twice each day the three miles which lay between the school and the farm.

He had learned something by this time. His penmanship, spelling, and English composition were very bad, but he was a good mathematician for his years. He was also deeply interested in chemistry, and especially in natural philosophy and astronomy, devouring everything he could find on those subjects. He had not much memory for details, but could recall the substance of what interested him. He could master mechanical problems quite easily, and often improved some crude machine.

Curiously enough, he found algebra hard. It seemed a closed book to him until one day it suddenly opened, as if by revelation. After that he loved it. The

principal of the Morristown school took a fancy to him and coached him in Latin so that he could pass the examinations. This principal had a progressive mind, alert for the new discoveries of science. He found in young Vail a congenial companion, and often asked him to remain after school to discuss what was new in the scientific world. The polarization of light was then inviting attention. It became one of their favorite themes. Theodore Vail was generally friendly with his teachers.

Not that he was an exemplary boy—he got into trouble as often as the next one. One of his teachers, probably the one at Morris Plains, carried with him the symbol of discipline in the form of a strap, attached to his wrist. Doe Vail got an occasional sample of this strap, and after one such application—more vigorous, perhaps, than usual—he played truant for a week, hiding around the Speedwell Iron Works during the day.

At sixteen Theodore Vail was in no sense regarded as a remarkable, or even a promising boy. He was hardly a leader among his fellows. If anything was going on he generally had some part in it, and once when there was a school exhibition he was asked to write the dialogue. He had solemn moments when he seemed to take life seriously, but such small talents as he displayed did not carry the suggestion of a brilliant future. Judge Vail, by this time an irascible old man, said to his father:

"Davis, that boy is always whistling."

His father more than once declared that he expected to have to support him—a prophecy which in later years he used to repudiate.

Theodore Vail had an emotional nature, and in youth certain aspects of religion appealed to him. He was a faithful attendant at church and Sunday school, and there were times when his ambition was to be a minister of the gospel. He pictured himself in the pulpit, pouring out eloquence that would move his hearers to conversion. He thought his mother would be proud of him in that rôle. Also, the minister was a person of vast importance. A visit from him was a real occasion.

He read rather more than the average boy, and had a very good little library. Among his earlier books were *Jack Halliard* and the Abbott "Franconia" books. The boys in those books did the things he liked. He was always exploring ponds and hidden places—"distant provinces," he called them. He liked to find a secret retreat, and lie in the shade and picture travels in far lands.

As he grew older he developed a taste for fiction, but also for biography and history. Abbott's *Life of Napoleon* was one of his favorite works. Lieutenant Herndon's book on the exploration of the Amazon was another. The romance of South America made a strong appeal to him, one that he would answer by and by. Like most of the reading families of that day, the Vails subscribed for the Harper publications, and had them bound. Theodore was especially fond of these volumes, and always regarded them as the best reading for general education. The Porte Crayon and Dodge Club articles in *Harper's Magazine* satisfied his early taste for humor.

It was about this time that he earned his first money

THEODORE AND EMMA VAIL ABOUT 1854

THEODORE VAIL AT 16

THEODORE VAIL AT 22

THEODORE AND EMMA VAIL ABOUT 1864

EARLY PICTURES

away from home. An uncle wanted some pea brush cut, and gave him the job. Doe took a handcart and brought in a handsome, well-selected assortment. His uncle gave him a dollar, a large sum for that day. He promptly went to the bookstore and bought with it a volume entitled *Lights and Shadows of Real Life*, by M. W. Savage, Esq. Its sub-title was *The Universal Genius, or the Coming Man.* It turned out to be the story of a man who from youth up was always going to do great things but never achieved them. Reading it, the boy could not escape the thought that it might be a forecast of his own life. His plans were so many and his achievements so disappointing. He saw other boys starting in at some trade or profession, but he could not make up his mind. When he did not want to be a preacher he thought of becoming a lawyer, or a doctor like his uncle, or an explorer, or a scientist. Finally, when he had ended with high school he entered a drug store as a clerk.

Chapter IV: The Fascination of the Wires

THE American Magnetic Company had a telegraph office in the drug store, which Theodore Vail found more interesting than dispensing medicines. Its scientific and mechanical aspects both appealed to him. Also it touched his romantic nature: it meant to converse at long distances; it meant travel —a telegraph operator could go anywhere.

Furthermore, the magnetic telegraph was a Vail tradition; the association of Alfred Vail in its invention, its development at the Speedwell Iron Works, had brought honor to his family. He had heard the story time and again from his earliest childhood.

He remained about two years in the drug store, and at the end of that time knew a good deal more of telegraphy than of drugs. He had made one or two magnetic instruments of his own, and, though the old "tape" receivers were still in use, he had learned to read messages, if not sent too rapidly, by sound. He had a room over the store where he seems to have lived at least a part of the time, the Vail home at this period being on a farm some little distance from the town. He was seventeen when he entered the drug store, and with a good many evenings to himself he had a rather enjoyable time, acquiring a taste for social gayeties; likewise for associations not always of the most improving sort. Very likely it was a moral reaction that sent him back home at last, to

begin with his uncle, Doctor Quinby, the study of medicine. This was in May, 1864, when he was nearly nineteen years old.

It was while he was in the drug store—when he had been there something more than a year—that he began writing a diary. Nearly every boy begins one sooner or later, and it usually dies an early natural death. Theodore Vail's diary, with intermissions—plenty of intermissions—covers a period of a little more than four years, and is interesting, not so much for what he writes as for what it reveals. Mainly it is a rather monotonous record of the day's unimportant affairs; but it outlines his history of that period, and presents something of his mental progress. The extracts here set down preserve the spelling, grammar, etc., of the original. The entries begin September 14, 1863, in the midst of the Civil War:

> This day was ushered in cold and Cloudy, with a promise of a cold rain and as the fall or equnoxtiel shower is almost due we may have a long rain—The news from charleston is favorable and it is probable that that stronghold of Rebeldom may soon fall. Yesterday I was at Parsippany. things are about the same as usual and I visited Uncle Isaac Johnson for the first time in a long while.

This is a fair sample of the opening fifteen pages of the stout leather-bound volume in which he had set out to record his private history. The penmanship is very bad, and he was weak on punctuation, spelling, and English construction. He was faithful, however, to the daily entries for nearly a week, after which they began to skip and stagger in regular diary fashion. In one entry he mentions a game of baseball—always one of his favorite sports. This was the period when

he was rooming above the drug store and enjoying his evenings out. October 28th he writes:

> In the evening I went up to Prayer Meeting and took a Lady home from such a place for the first time in my life, she in return presented me with a Geranium leaf, which I keep as a memento.

What other sorts of places he had taken young ladies home from he fails to mention. Long years afterward he confessed that, though always a timid boy when girls were about, he was constantly in love with somebody.

"I was always the victim of a secret passion. Once when I was quite small I went home and lay on the bed and wished I could die because a little girl had looked at another little boy and didn't look at me."

That he was less diffident with his own sex we gather from entries here and there that tell of his being out with boon companions. Once, at least, he mentions having "drinks all around," whether hard or soft is not revealed.

There is a long skip after the October entry, then comes one in May which tells of taking up the study of medicine with Doctor Quinby. He also speaks of Union troops—the "100 Days men" that were being raised in Morristown. The young man wished to enlist, but his father opposed him. In his diary he wrote:

> He said I should not as long as he could help it so that is settled Would like to go much, not that I have any desire for the life, for I dread going but I think it is the Duty of everyone to do something.

Soon after this, in July, there must have been something in the nature of a convulsion in the Vail house-

hold, at least so far as his affairs were concerned. The diarist started to set it down, then carefully erased all but the opening lines, and his next entry, a month later, is made in New York.

August 26, 1864.

I see that the last I wrote was on the 24th of last month over a month ago—then as I wrote things were in rather a musty condition. The Climax was reached on the few days following—I was down to town on the Saturday night following—and some things then happening set it going. So Wednesday I started to town.

Meaning Morristown—the family, as already mentioned, living at this time on a farm.

The young man went down to Newark and wrote to his uncle, Isaac Quinby of Rochester, who was associated with the Western Union Telegraph Company. A few days later he was in New York, at work in the telegraph office at Fortieth Street and Eleventh Avenue, known as the Hogshead Office, it being telegraphic headquarters for hog brokers. The diary covers this period and tells of a trip made presently to Morristown, but records that he "did not go home." Apparently relations were still somewhat strained. There is also mention of letters from his mother, and of his replies, but with no hint of the contents of either.

Chapter V: A Young Man in New York

THERE began for him now the life of a young man—a very young man, for he was less than twenty—in New York City, alone, or at any rate removed from the influence of his family. His associates were other telegraph operators, a pretty lively lot, if we may judge from the diary.

His office hours began at eight in the morning and he was there on time, for promptness was always one of his virtues. Yet it must have been pretty difficult sometimes, considering the hours when he went to bed. With wise forethought he had secured a handy boarding place.

It was a care-free life that he led. When the office closed in the evening there was generally a walk with a friend or two along Broadway, with pauses of more or less duration at places of amusement and refreshment, for billiards, oysters, and what not, with often a theater in the evening. Niblo's Garden was popular in that day, and it was there he saw "Fanchon, the Cricket," and fell madly in love with Maggie Mitchell, who played the leading part. Tony Pastor's, then on lower Broadway, was a favorite resort, and Lester Wallack's another. Edwin Booth played "Hamlet" for a hundred nights, and young Vail went as often as he had the money. He went sometimes when he didn't have the money—at least when he had to borrow it, for these young men were always borrowing

from one another, and nearly always behind with their paymaster, J. C. Hinchman, who must have been an easy-going official in matters of finance. In fact, the old-time telegraph office was not famous for discipline. The operators were not always busy, and friends dropped in to play checkers or dominoes, to have a smoke or to take something liquid, and perhaps customers were not very exacting in that more leisurely day. From the diary we get the notion that young Vail and his companions were generally eating oysters, playing billiards, or going to the theater, and that they were always behind in their salary account. At the end of the first month comes this entry:

I must say that I have had as nice a month of it as I could wish, and do not regret the step I have taken at all. Some things I have done that I would rather take back but on the whole I am very well satisfied with my month's doings.

It was fine to have a clear conscience like that, though it may not have been quite as clear as he was making himself believe, for on the next day, which was September 1st, he wrote:

This is the beginning of a new Month and with it we should all make resolutions to spend it in a more profitable manner both to ourselves and to our fellowmen.

There is something more than two pages of these wholesome reflections, closing:

We must discourage all wastefull slothfull untidy Base Wicked thoughts and actions in ourselves. We must examine ourselves and see if we have lived up to our markings out—if not we must examine wherever we have come amiss and then strive to cease entirely all such.

His morality was better than his English, and both better than his penmanship, which was still pretty bad—very bad indeed for a telegraph operator, though a gradual improvement shows from month to month.

The Jersey House, on Chambers Street, was a resort where he and his friends went for billiards, a game at which he became really proficient. Sometimes instead of going out "sporting," as he calls it, he went to Newark to spend an evening with "Aunt" Mary Righter (his mother's aunt), coming back on a milk train in time to be at the office in the morning. One could lose a good deal of sleep in that way, but there were some pretty cousins at Aunt Mary's, and often their friends, all of which made the visits worth while. Not that he had forgotten his people; he wrote to his little sister Mary, aged about ten, and hired her to write him letters with all the news, such news as a little girl would think important to write. He did not visit his home, however, until October, after an absence of nearly three months.

He was not going to the dogs, but a prophet with due regard for his own reputation would hardly have predicted for Theodore Vail at this period a distinguished future. A physiognomist, however, might have looked at him a second time before denying that possibility. Not that his features were particularly impressive; they were rather handsome and fairly regular, with one exception. To paraphrase a line of the Western poet, "Ironquill," the observing physiognomist might have noticed:

Something that appeared abnormal in the structure of his ear.

That is to say, in the size of it. It was probably the most ample ear ever developed in the Vail family —a "listening ear," the physiognomist might have called it, an ear that could listen into the future. But even the wisest and most occult prognosticator would hardly have forecast the moment when its owner would listen for voices from around the world.

Eighteen-sixty-four was an eventful year. George B. McClellan was a candidate for the Presidency, nominated by the Democrats to beat Abraham Lincoln. Extracts from the diary follow:

November 7th.

On Saturday Eve there was a grand procession in Honor of G. B. McClellan who was at 5th av Hotel. The procession was about 3 miles long The crowd was immense McClellan was on the balcony of the Hotel smiling and Bowing, he stands a poor chance I guess, but tomorrow is election and it will decide the fate. Some anticipate a hard time, Butler is in New York his headquarters are at the Hoffman House near the fifth ave. Hotel where he has a telegraph wire.

Tuesday Eve. Nov. 8, 1864.

To-day is about the same as yesterday stormy bad disagreeable Day. . . election is going on. No excitement at all to what they supposed there would be. The little boys have been fighting all day. There has been a boat loaded with soldiers lying off forty-first st. so as to be at hand in case of any disturbance but I guess they will not be needed at all.

November 9, '64. Wednesday Eve.

This day has been the same stormy Rainy day as of yesterday. Last Evening after I closed I went down to St. Nick. [Hotel] and stayed there helping get Election returns untill about half past one . . . the Returns from Election give Lincoln a maj and he will win N. Y. state by a small maj but city is strong Dem . . . Gold is going up, but I guess it is not from election but from the Bulls in market and we shall have a fall.

With the approach of Christmas any unpleasantness still existing at home would seem to have passed away, for on the 22d of December he writes that he has been out to Morristown, visited his family, and remained there overnight.

The diary offers no further entries until the end of March, 1865. Then follows another outbreak of moralizing—very likely a reaction from the three unrecorded months. One brief extract will do:

> Staying up late of nights playing Billiards and drinking lager is not what young men should be doing and for one I am determined to stop it. But what am I saying "Determined to stop it" Yes, But how many times have you said the same before and are you stoping it now.

He carries on at this rate to the extent of four pages, then forgets to make any further entries for nearly a year. What happened in that year is rather foggy. He was by this time no longer at Fortieth Street, but at 416 Broadway. He writes:

> I have been thrown around quite considerably since that time—got into difficulties and out again, only to get into some fresh ones. When will I become so sober and settled that I shall not continuously involve myself.

Four hundred and sixteen Broadway was the office of J. C. Hinchman, city superintendent of the company. Hinchman, doubtless because of Isaac Quinby, had a personal interest in the young man, and this was in the nature of an advance. Vail became Hinchman's assistant—"not a very good one, not very attentive to business," he declared many years later.

"One day Hinchman said to me, 'Vail, I think you'd better look up another job.' I agreed with him and went out home for a visit. I stayed there a day or two to think matters over, then I came back to 416 Broadway. 'Well, Mr. Hinchman,' I said, 'where do you want me to go now?' He sent me to an office uptown, facing Bryant Park. Later he sent me to White Plains."

The diary makes no mention of these changes, which must have occurred during its year of silence. Probably the White Plains experience was brief, for he was back in New York in time to make his next entry, February 16, 1866. In it he tells us that the family are planning to move to the West, and he does not like the idea of staying in the East without them.

> West—what a field! To grow up with a new country and become one of the men. But what kind of a man depends on the use you make of your talents and opportunities placed at your disposal.

He still lectures himself and forgets to punctuate his sermons. His writing and spelling are better, but there is room for further improvement. Another entry follows next day, one of the usual kind, with theater, refreshments, etc., and there the New York record stops forever. For a young man's diary it is curious in that it gives us nowhere a hint of his ambitions for the future. In after-years he used to say that his chief ambition of those days was to own a sable coat and a ruby ring.

Chapter VI: A Young Man Goes West

WITH the end of the Civil War there had begun a great exodus to the prairies of the West. All the roads suddenly whitened with wagon trains—"movers" of high and low degree; some with meager outfits—their poor belongings crowded into one rickety covered wagon; others with two, or four, or half a dozen great white-topped prairie schooners, and fat horses and cattle, taking up proudly and confidently the westward march. The writer of these chapters, a little boy then, saw them pass in a steady stream, a peaceful army setting forth to build a new nation.

Davis Vail and his wife were of those who caught the fever. Their big family, especially their boys, would find, as they thought, a wider field of opportunity in the new land. The younger boys, Isaac and Alonzo, were still at home, and Theodore had thus far achieved nothing very satisfactory in his New York career. Davis Vail at fifty-five decided to go West and on the Iowa prairies make a new start. He sold at a good price a small farm which his uncle Stephen had given him, and planned to buy a tract of Iowa prairie somewhere near the town of Waterloo. The Iowa project seems to have appealed to all of them. Relatives already in Waterloo reported the riches of the farm lands. There was something fine in the thought of establishing a new home and break-

ing up and planting the soil that had lain untouched since its creation. Theodore Vail, always romantic, probably required little persuasion to join in the adventure.

The Vail expedition did not go by wagon, nor did they all start immediately. The eldest daughter, Sarah, and the second son, Isaac, remained for the time being in Morristown. The others drove to Paterson, where they took train to Valparaiso, Indiana, changing there to a road that carried them more nearly in their general direction. Theodore Vail never forgot his impressions of that journey; deep, continuous woods that seemed to stretch into infinity; the long level fields of Ohio and Illinois; Chicago, where they stopped briefly, a big dirty town, with sidewalks that slopped down into the mud and water. Davenport, Iowa, on the Mississippi River, came next, with Waterloo still a hundred miles farther on. Of this the first twenty-five miles were settled, then came vast leagues of prairie grass, a level billowing sea.

The train stopped at Waterloo; a cousin already located there met the Vail party and took them to the hotel where they would stop a day or two until they could find a house. There was a billiard table in the hotel, and the landlord, Hank Williams, observing Theodore Vail knocking the balls about, proposed a game. Williams was regarded as a good player, but his opponent beat him, immediately acquiring prestige in the little town as one acquainted with the sports. Within the week he had been annexed to a ball team and was playing in match games.

Waterloo was by no means a frontier town in the

usually accepted meaning of that term. It was not a rough community; it had been settled by good families—most of them people of culture and comfortable means. Its population numbered about three thousand, and there were plenty of schools and churches. Its dissipations generally took the form of church festivals and donation parties for the ministers. There were the beginnings of a library, and each winter there was a lecture course, during which some of the best-known people of the East came to amuse and instruct, chiefly the latter. Among these were Bayard Taylor, Wendell Phillips, J. G. Holland, Fred Douglass, and Clara Barton. There were two entertainment halls—Russell's Hall, with a stage for theatrical performances, and Lincoln Hall, used for the lectures. Waterloo was really a big Eastern village transplanted to Iowa soil. It was growing, however, in truly Western fashion. About three hundred new buildings were planned for the year—among them a three-story brick hotel, and a woolen factory.

It was May when the Vail family arrived in Waterloo, and it was in July that they bought the farm, a section of raw prairie sod, about nine miles from town. There was no habitation on it of any sort, but there was a big grove of fine oak trees, the only one in sight, in the edge of which they planned to build. Davis Vail and the two boys, Theodore and Alonzo, went out and put up a shack on the place, later to be used as a granary, and in this the boys camped and began the hard battle with the prairie. Work was also begun on the house, which they planned to have ready by cold weather. Sarah and Isaac Vail arrived in October,

and the family of nine moved into the new home before it was finished.

Theodore and Alonzo Vail had found plenty to do, and their brother made a welcome addition to their forces. None of them had ever done much in the way of heavy farm work. The nearest timber available for wood was twelve miles away, and Isaac and Alonzo Vail undertook the job of getting the winter's fuel—no small undertaking. To Theodore, perhaps because of superior strength and mechanical gifts, had been assigned the job of breaking up eighty acres of the tough prairie sod—a job which meant following all day long behind three horses and a huge plow, to come in weary and lame at night, but with an appetite for food and sleep such as he had never known before.

On the whole he enjoyed it. He always had a taste for conquest, and here was a new world to subjugate. With all the hardships it stirred his romantic nature. Following behind those three horses, watching the soil upturn for the first time, he could dream long dreams and conquer still other worlds.

There are no entries in the diary during all of this period. He made the first on Christmas Day (1866)—an entry of nearly nine pages, for the most part a long moral screed on the joys and duties of Christmas. A brief sample will satisfy the reader:

> Keep up a contented spirit, cheerfull disposition and all will not be dark—Some say that Man works his destiny—If so, a cheerfull worker makes a pleasant life—or on the other hand a dark morbid spirit will make a dark life—full of disappointments and a continual sighing after, without the realization of happiness.

He finally remembers to record the fact of their move, and something of what they have been doing since their arrival. He incidentally refers to how much all have missed the festivities and friends of last winter, adding:

> Though these longings only come up when unemployed, giving truth to the old adage "The devil fills all Idle moments," whether to the person's advantage or disadvantage is hard to tell. What comes next will be once in a while stated in this volume. . . . So good night, the demands of Society are imperious. [Some friends were coming in for the evening.] I must close as the Room is filling and the Ice Cream is ordered which I cannot neglect.

This entry is signed, so it may be regarded as official. He was more faithful to the diary for a time. Stormbound as they often must have been, he had more opportunity to write. When the weather made it possible the boys went to the woods, twelve miles across the frozen prairie, nearly perishing in the fierce Iowa cold. At the end of the year the diary furnishes us with another long sermon, telling of broken resolutions of the past and hopes for the future, that have come to naught. If Theodore Vail gave any particular promise at this period it was that he would become a country preacher, with hardly more than a local reputation. His diary furnishes not the least suggestion of originality or constructive power.

He made "a few select calls" on New Year's Day, and heard Theodore Tilton lecture in the evening. Doe Vail rode horseback to the farm after the lecture, and one can still feel the chill of that deadly nine miles across the white Iowa waste. The diary tells briefly of the winter's work, also of its sports—skating, church

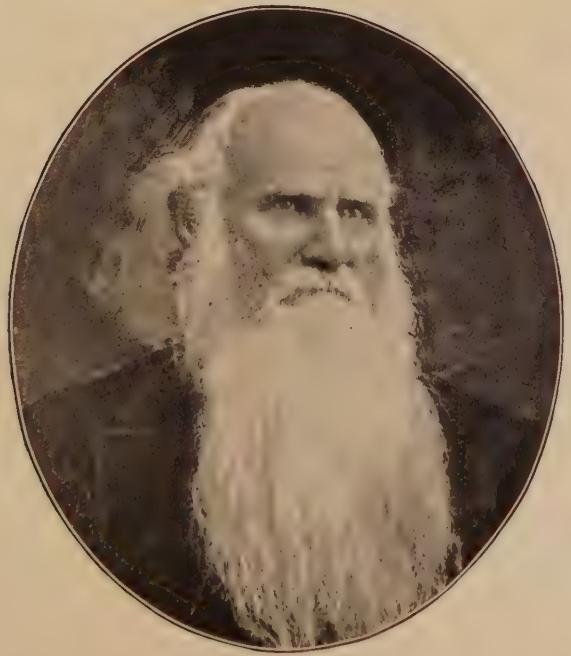
sociables in Waterloo, with two sermons a day on Sunday. Occasionally one finds a hint of the temperature—twenty-two below being about the average. The writer comforts himself with the fact that one does not feel the cold so keenly there as on the sea-coast. Once, when Grace Greenwood was expected to lecture in Waterloo on the "Heroic in Common Life," certainly an appropriate subject for these pioneers, he made his way to town, only to find the railroad so blocked with snow that her train had not arrived. He writes that the days fly very rapidly, so he must have enjoyed the vigorous life of the prairie, also the society in Waterloo which he sought pretty often, considering the long, cold way he must travel to reach it. In one place he confesses that he stayed at home on account of the cold. It was twenty-eight below that evening, and windy.

Spring brought its inspiring, even if heavy, routine of labor, the regular farm life of the "middle border" that Hamlin Garland has so vividly described. Then summer came with the harvest, and the eighty acres which Theodore Vail had turned up yielded a fine crop of wheat. For the soil, a black loam, properly cultivated, was rich and productive; in time it would be ranked among the highest-priced farm lands of the West. "Speedwell Grove," as they had named it, with its deep shade and gently rolling acres, was for that day and locality a desirable home. The Vails were not without neighbors. Here and there dotted over the prairie were houses like their own. In one of them lived a young Pennsylvania Dutchman named Jake Hoffman. He was married and his wife was a

fine cook; the Vail boys loved to go there, especially on Sunday, when there would be flapjacks and pumpkin pie, which Jake's wife made better than anybody in the neighborhood. The boys had great appetites, and this kindly soul enjoyed seeing them eat. Their own home was a popular place; neighbors often came in for the evening, or for Sunday dinner. When there was no company the family gathered around the fire after supper for games or reading aloud; and there would be popcorn and apples in old-fashioned country style. When all is said the Vail household was a happy one.

The boys were good workers, but they had a passion for baseball, which they sometimes found more fascinating than the labors of the field. Davis Vail, visiting unexpectedly a distant corner of his estate, found the horses hitched to the fence and his sons practicing pitch and catch in the next lot. Theodore Vail became a real expert and was chosen catcher of the best Waterloo team.

Baseball must have been a favorite Iowa sport in that early day. There were six regularly organized clubs in Waterloo alone. The town paper, commenting, said: "An outsider can scarcely pass through the outskirts of the town without being balled, batted, or run over." The team of which Doe Vail was a bright and particular star was called the Empire Club, and we may believe made a fairly striking appearance when freshly clad in its uniforms of white flannel trimmed with scarlet cord. The Empires did not always play at home, but challenged neighboring towns for "championship games." Once they played Cedar



DAVIS VAIL

PHEBE VAIL

PARENTS OF THEODORE N. VAIL

Falls, with a resulting score of eighty-four to thirty in favor of Waterloo. That was a game worth watching; at one splendid moment of it the home team made thirty-three runs in a single inning. The Waterloo paper reports this, and adds, "the playing was superb." In another issue the home paper—its name was the *Courier*—reports a game in which Theodore Vail was the moving spirit, and comments on "the marked improvement in skill and *esprit de corps*."

In another note the editor comments regretfully on the lack of discipline shown during the game: "Members who had no business to question the umpire waxed warm in the discussion of his decisions." So it was the same in that day of simpler things.

The game which was to remain longest in Theodore Vail's memory was played with a Marshalltown club, the captain of which was a young man named A. C. Anson, the celebrated "Pop" Anson of later years. The Marshalltown team had a uniform of red and blue and put up a good game. The Empires beat them once, and when one remembers that they were playing against a future star like "Pop" Anson, who also had his father and brother on the team, the fact seems fairly remarkable. Marshalltown won, however, the other two games of the series—the third being played in Waterloo. The *Courier*, perhaps out of delicacy, does not report the score of this game, merely remarking that it was close—probably about seventy-five to sixty-two. But when it was all over the defeated Empires gave the visiting victors a grand supper at the Central Hotel, where above the table hung the Stars and Stripes, over which were two crossed ball

bats, with the legend, "Marshall's the Victor." With deep feeling the *Courier* adds: "It was too much; we all felt the compliment and it proves to us that the Empire boys have large hearts."

The visiting club was not to be outdone in generosity, for when a vote was taken to award a belt to the champion player of Iowa, the honor was unanimously conferred, not on the future-great Anson, but upon Theodore Vail. He was proud of the belt and kept it all his life.

Chapter VII: The Diary Comes to an End

THEODORE VAIL was not always playing baseball. In his diary, in which he still makes an occasional—a very occasional—entry, he records that a part of the harvest season of 1867, something more than a month, he spent near Cedar Rapids, earning extra money in the fields. He had many misgivings at this period as to his ability to make a living. To a young man named Whitney, a member of his ball team, he confided that he thought his chances poor for ever amounting to anything as a farmer or business man. Home affairs were also discouraging at times. In one entry of the diary he expresses a wish to go away, but lacking funds decides, for the time at least, to "stick it out." It may be worth while to add that the young man's handwriting had by this time greatly improved—indeed, had become really handsome, the letters carefully and gracefully formed. His English was better, too, though his spelling and punctuation still left something to be desired.

During his period of absence in the harvest fields already mentioned he had been invited by a farmer to remain in the neighborhood as school-teacher. He returned home instead, but the teaching idea developed, and he secured a school for the winter about three miles from his home. Every morning across this stretch of prairie he drove a little white mare which,

perhaps because of the cold, seemed always anxious to jump the fences. Certainly it was cold enough. The thermometer sometimes registered forty below zero. Twice when blizzards were raging teacher and pupils remained overnight in the schoolhouse.

The scholars, about twenty-five in number, were of all ages, and well-behaved, as a rule. The young teacher—he was now twenty-two—took pains to get the parents interested. He seldom administered punishment, but in one instance was obliged to thrash a boy who, being the son of a trustee, thought himself immune. A girl of sixteen, who had lived in Waterloo and acquired city airs, he required to sit on the top of his desk for her general disregard of rules. His classes made good progress, especially in mental arithmetic, in which he gave them daily drills.

The final entry in Theodore Vail's diary bears date of December 21, 1867. It contains some very particular news. It opens with the familiar moralizing strain, then refers to the great drought which has parched the land and dried up the streams; also to his school at Blakeville, which he "neither likes nor dislikes." Then follows the important fact—his engagement by letter to his cousin (once removed), Emma Louise Righter, of Newark:

> But with all this entry of things uneventful, one of the *greatest* event and Moment has transpired That is, Well, I do not know in what language to clothe it—but may say the partial Consummation of long long wishes and hopes. Something that has been troubling my poor head for sometime. That is The Engagement of Myself to E. L. R. How many many a wearisome time I have had of it, half fearing half hoping—For Emma. Were it not for the possibility of Strangers Eyes seeing this, I could and would like

to record some of the many fluctuations 'tween hope and fear. The deep love which caused them and finaly the joy at knowing what would or will happen if no unfortunate circumstance interferes.

His feelings carry him away, and he is not entirely coherent. It is all rather surprising, for while he was in New York, though often visiting Aunt Mary Righter's home in Newark, there was nothing in the diary that would lead one to suspect any special interest in Cousin Emma. The diary closes here; the sturdy leather-bound book is no more than half filled.

Teacher Vail could have had his school for another year had he so desired. He had other plans. First of all he wished to make more money, and Iowa seemed to offer little in the way of opportunity. He had ideas for inventing—he hardly knew what, but something that would revolutionize some great industry. A cousin, "Chet" Green, had come to Speedwell Grove, for his health and to assist with the farm work. One day in the granary Doe Vail said to him:

"Chet, I could invent a self-binding harvester."

They discussed the matter somewhat, which seems not to have been carried any further. It is interesting, however, to remember that so long ago Theodore Vail saw the possibility of such a machine. A picture of about this date shows him a rather handsome, keen-eyed young man, with an earnest, purposeful face. He wore the small side whiskers of the period and a still smaller mustache. He was attentive and generous to the other sex, and very popular.

Chapter VIII: Back to the Wires

THEODORE VAIL'S days in Waterloo were drawing to an end. One day he remarked to a friend in town, with considerable emphasis: "I have had all of that dam' farm I want. I am going where I can make some money."

His school closed with the month of March, and this must have been about that time. He wanted to get away from his present surroundings; his old occupation, telegraphy, offered the chance. Ralph Grimes, telegraph operator of Waterloo, a nephew of Senator Grimes of Iowa, told him that there was a great demand for operators on the Western roads, especially on the Union Pacific, then not completed. Vail promptly made an application to headquarters and was given the "night trick" in the office at Pinebluff, Wyoming. We may believe that he bade a regretful good-bye to Waterloo, for in spite of occasional disagreements no one ever had a deeper affection for his relatives than Theodore Vail. Furthermore, his two years there had brought him warm and faithful friends. In a letter written many years later he said:

> Waterloo was a curious dividing-point in my life. . . . Sometimes as I look back I wish I had stayed in Waterloo and taken my chances there.

But he was old then, and responsibility weighed him down. He could never have remained in Waterloo.

At twenty-three something had begun to stir in him that prompted him to a fuller independence and a wider field of action. He had hardly reached the turning point of life, but he had begun to suspect its existence.

He took a train for Omaha, thence by the newly built and uncertainly ballasted Union Pacific he went rocking and bouncing twenty hours farther across the frontier, to Pinebluff. They were approaching the Black Hills when he reached his destination.

His reception was not especially cheerful. On the railway platform lay a dead man; he had been killed by Indians the day before, and was cut in many places. He was quite uncovered and seemed to attract very little attention.

Willard S. Brown, his alternate in the office, greeted him and advised him, for safety, to change his white shirt and collar for something in rough flannel, also his stiff hat for a slouch, a transformation promptly made.

The Union Pacific, completed the following year, was at this time in its last throes of construction—every energy being strained to get the work finished. The two divisions—building simultaneously from the East and the West—would meet at Promontory Point, on top of the mountains, near Salt Lake. Pinebluff, a work and supply station, was congested with construction material. Fuel for engines was obtained there, rough gangs being employed to get out dead and burnt timber which consumed readily and made a hot fire. Twenty dollars a cord was paid for the wood, and the men made big wages—well-earned,

for the Indians were troublesome, the woodchoppers often requiring the protection of soldiers. The choppers themselves were a tough, warlike gang. They spent their money in dissipation, and fought most of the day on Sunday. They were not without their good side; young Vail got acquainted with many of them and visited their dugouts; among the men he found college graduates who had got into disgrace in the East and drifted into this rough life.

Duties at Pinebluff were rather strenuous and fairly active. One had to be fearless and have presence of mind. Wood was piled along the track in great ricks, and one day soon after his arrival about five thousand cords of it got afire. It was a moment for promptness and decision. The young telegrapher quickly collected reinforcements and put it out. Every few days there were brushes between the woodchoppers and the Indians, generally with fatal results.

When Theodore Vail had been a short time in Pinebluff his brother Alonzo came out and was given employment as a night watchman. A few days later the two brothers, out on the mesa, on horseback, found themselves suddenly facing a number of Indians. The Indians dodged behind trees, it being their tactics to draw the fire of the young men, who were armed with Springfield rifles. The boys did not fire, however. After a moment's hesitation they wheeled their horses and dashed down the hill in the direction of Pinebluff. Some cavalrymen saw the race and came riding to the rescue. There was a brief skirmish in which one man was killed. Next day a report came that some young men fishing not far from town had

been surrounded by Indians and scalped. The Horse Creek fight, in which a small party of whites was surrounded by Indians for thirty hours, took place forty miles from Pinebluff about this time. There were few dull days in that neighborhood; each had a fresh interest. At night the coyotes howled, and sitting in the office alone was not very pleasant. One night Vail and his brother heard a sudden tramp as of horses' feet and believed the Indians were coming. Their hair stood on end, but when the sound continued and nothing happened they went out to see what it was. It was only the oxen used for wood-hauling, on a rampage and racing up and down.

The telegraph employees boarded at the section house—that is, they ate there—providing their own food, which the wife of the section boss cooked for them. There was not much variety. Eggs were a dollar a dozen, and not always to be had at that. Fresh meat was equally scarce. Sometimes they got a piece of antelope meat, but the regular diet was salt pork, bread (no butter), coffee with condensed milk.

The Pinebluff saloon provided the trimmings. Besides whisky straight, it carried raisins, almonds, and canned peaches. In moments of relaxation the section boss's boarders played seven-up, less often for the drinks than for a pound of raisins, or almonds, or for a can of peaches. The telegraph boys finally set up housekeeping in a corner of the freight room and hired a man to cook. He turned out a failure and was soon dismissed. Then Vail became cook and worked out his first problems in domestic economy. It was rudimentary education in a field in which he

would one day be distinguished. When Thanksgiving came, and Christmas, his mother sent him generous boxes containing turkeys, pies, and doughnuts. A sudden fortune could hardly have been more welcome. The news of it traveled—Vail himself sent it out over the wires. Men came as far as a hundred miles for a single piece of pie.

Theodore Vail, with his natural gift for expansion, inaugurated changes in the Pinebluff office. Not contented with the local wire service, he had made representations to headquarters that resulted in Pinebluff being made a "testing station," with two through wires "cut in" which put the office in direct touch with the affairs of the world. The trainloads of overland passengers that passed through almost daily were supplied with the latest news, taken down from the wires. Brown, the day man, was transferred to another office, and Vail was given the place and made agent of the Pinebluff station. He sent for Ralph Grimes of Waterloo to take the night work—Grimes, it will be remembered, having prompted him to try for a Union Pacific position.

Vail got some lessons in frontier politics that year. On election day not only were all the woodchoppers and other temporary inhabitants voted, but when the emigrant train came along the male passengers were invited from the coaches, duly marched to the polls, and the proper ballots placed in their hands. Probably they were voted at every station they passed that day. Most of them were foreigners, who must have rejoiced in this generous franchise of the new land.

Chapter IX: A New World to Conquer

IT was not likely that Theodore Vail would remain long at a place like Pinebluff. For him it was only a way station. He was constantly on the lookout for something that would carry him a step further into the affairs and activities of the world.

Also, there was a special reason why he wished to improve his circumstances and surroundings. He had planned with Emma Righter to be married that year, if fortune provided the means, and he had no wish to bring a young Eastern-bred girl to Pinebluff. In the course of his station duties he had become acquainted with some of the boys in the mail service and it seemed to him they led pleasant lives. They spent at least a part of their time at Omaha, they got a constant change of scenery, and their pay was better than his. He decided to try for such a position.

He wrote to his uncle, Isaac Quinby, who had influence at Washington, and asked for an appointment. Then he forgot the whole matter until one day there came to the Pinebluff postmaster a big official envelope which said on it "Find Vail and give this to him," signed by Gen. G. M. Dodge of Iowa. It was Theodore Vail's appointment as a mail clerk.

This must have been very early in the year, probably in March (1869), for at the end of that month we find him writing to his fiancée from Cheyenne, giving some description of the country through which

he traveled. His run at this time was from Omaha to Wasatch, the rails then having been laid to within two miles of Ogden, which he thought the trains would reach in another fortnight or so. The track was very bad, and it was all the trains could do to stick to it under the best conditions. In one place he writes:

> How terribly windy it is. Coming over the hills I was really afraid we would be blown away, it was so strong.

Some portion of his description may be interesting:

> Until you get past Weber River it is very wild, very, but after that it changes. First small valleys with farms. Mormons have settled most of the available ground beyond the Wasatch, gradually spreading out into the great Salt Lake Valley, the promised Land, the Paradise of the world as the Mormons claim, but you will see it all for yourself before you are many years older I presume.

Postal clerks were not so called in that day. They were known as route agents and mail messengers, according to their salary. Vail was a route agent, which meant that he received as much as nine hundred dollars a year. Mail messengers were paid less. Vail began at the figure named, then presently was advanced to a thousand, later to twelve hundred dollars a year, considered a very good salary, and the maximum for his position. The Union Pacific run was not very highly regarded either by the government or its employees. It was a new venture; it ran through a wilderness and was of hurried, hit-or-miss construction. Its equipment was on a par with its track, and its mail clerks on a par with its equipment. It was said that anything human or mechanical not

wanted elsewhere was turned over to that road. It was a good place for trying out new men.

Much of the track had been laid on roadbed thrown up during the winter when the earth was frozen. The spring thaw came and the ground softened up like mush. Trains passing over it billowed up and down and from side to side like a boat on waves. They did not always stick to the track. Once a train rolled over and slid thirty feet down the mountainside. At another time—it was in the night—when there had been a heavy rain and many washouts, Vail, who was off watch and asleep, awoke to find himself sailing through the air. This was delightful enough until he suddenly landed in the water. The car was a complete wreck, but no one was killed and they were up presently, collecting the sacks of gold which they were carrying. They recovered the gold, but a pet horned toad had disappeared. When they came to take an account of casualties Vail found that he had wrenched his leg and could no longer stand on it. The accident laid him up for a month and he limped for nearly a year.

The mails were presently running from Omaha to Promontory Point, a distance of about eleven hundred miles. A round trip required six days, after which there was a six-day layoff. At Omaha there was a jolly lot of fellows, and the six days passed pleasantly. Vail, however—at least in the beginning—enjoyed more the days on the road. There was so much to see along that eleven hundred miles of hill and plain! Great droves of buffaloes abounded; sometimes the train had to stop to let them pass—a brown, billowing

tide. The buffaloes rubbed the telegraph poles until they rubbed them down. The government had to put in spikes to prevent this damage. There were plenty of Indians, too, and in the beginning they sometimes gave trouble, trying to wreck the trains. They were treated kindly and allowed to ride on the platforms of the mail cars. This pacified them.

When winter came the trains were often snowbound. The clerks always carried rations of food for such emergencies, but once in Laramie City, where they were in the drifts for an extended period, they ran out of supplies and levied on the express car, where there were canned goods and dried fruit. Vail and his mail partner, Bob Harleston, with a big oil lamp improvised a kitchen in the mail coach, with Vail as cook, and the clerks lived high. The passengers, who had eaten up about everything in town, envied them. Passengers and employees alike joined in shoveling snow for exercise and to hasten their relief, which did not come for something more than a fortnight.

Chapter X: Building a New Home

IT was toward the end of July, 1869, that Theodore Vail set out for Newark, New Jersey, to get him a wife. He went by way of Waterloo, his new wedding outfit carefully packed in a brand-new trunk. He had been very particular about this outfit; his life on the frontier had made him rather doubtful as to his knowledge of Eastern requirements. In a letter to his fiancée some weeks earlier, the prospective bridegroom refers to the effects of his recent associations.

"I almost despair of my being able to behave myself in society, as I am so completely unused to the formalities in this country."

However, he had ordered some clothes of the "latest style" and hoped they would be worthy of the occasion.

Arriving in Waterloo, his first desire was to exhibit them to the folks at home. A new trunk was put off the baggage car and, handing the agent his check, he loaded it into the wagon which had come for him from Speedwell Grove. At the end of the long hot drive, after general greetings, he unlocked the new trunk and threw up the cover to display its wonderful contents. Awful moment—it was filled to the top with carpenter's tools! In outward appearance it was exact; the key fitted perfectly, but within all was jack-planes and mockery.

No trunk ever traveled from Speedwell Grove to Waterloo in a farm wagon on a hot day faster than that one. Arriving at the station after what seemed an endless time, they discovered probably the maddest carpenter in the state of Iowa. His key had fitted also, and he was regarding an expensive but to him perfectly useless collection of garments. He did not need a wedding outfit—he did need very badly his saws and planes. The sight of his own trunk calmed him, and Doe Vail was soon proudly displaying his trousseau to the family.

On the 3d of August, 1869, at Newark, New Jersey, Theodore Newton Vail married his cousin, Emma Louise Righter, to whom he had become engaged by letter nearly two years before. He had not seen her during the three years of his Western residence, and in the first moment of meeting they must have examined each other curiously and rather anxiously, to note the changes wrought by the years. The young man was still limping from his mail car accident, but he was otherwise full of health, and being tall and handsome doubtless made a satisfactory appearance; also, in spite of his misgivings we may believe he behaved creditably on his wedding day. As for Emma Righter, she was a sweet, amiable girl, and Theodore Vail's sister of the same name once described her as looking "like an angel." That they were a comely pair need not be doubted.

The bridegroom had obtained several weeks' absence, and a part of this time the young couple spent visiting New Jersey relatives. Then they journeyed westward by way of Chicago, to Omaha, where they

expected to make their home. A disquieting incident happened in Chicago. Vail had secured passes for the trip, but his finances were not abundant; he reached Chicago with just a twenty-dollar bill, which in some ghastly way turned out to be counterfeit! The young man rapidly ran over in his mind any friends in Chicago that might come to his relief, and lost no time in negotiating a short-term loan that would solve the situation.

Vail settled his young wife in Omaha, in a boarding house, and went back to the road. The Union Pacific Railway, the first iron link between the oceans, had been completed, and mail cars were going through. Vail's run, however, was between Omaha and Ogden, and a few months later, with three other Union Pacific clerks, he was transferred to the road between Chicago and Iowa City, to learn the work on that run, and for a special reason which will appear later. "Jim" Stuart[1] and "Fatty" Gates were in the car with Vail, and all became good friends. Stuart and Vail were destined to be closely associated for many years. Gates furnished a good deal of amusement. Vail was tall, and in those days spare. Gates, on the contrary, was short and fat, and used to dodge back and forth as he worked, under Vail's arms—sometimes even between his legs.

The new assignment lasted several months, during which time the Vails made their home in Iowa City. There, on the 18th of July, 1870, was born a boy, a strong, handsome child whom they named Davis, for his grandfather. Vail soon after was

[1] To-day Gen. James E. Stuart, division superintendent in charge of the Chicago Post Office.

transferred back to Omaha and made one of the head clerks of the Union Pacific, with a salary of fourteen hundred dollars a year, a welcome increase.

The young man seems now to have believed that Omaha was likely to be his permanent home. He thought it a good town, with fine promise. Its population was about fifteen thousand; it was growing rapidly and it was an important terminal. He had made warm friends there, and his wife liked the hearty genuineness of the West. They decided to build themselves a home—a small home suitable to their station in life. A cousin, George Vail—another son of Stephen Vail—had come to Omaha, and now made them a present of a lot and lent them a thousand dollars for building purposes.

The house they built was not a very extensive affair. It was twenty feet square at first, and had four rooms. Later they built an addition, put the kitchen in the basement, and bought a piano—on the installment plan. The addition itself had required new financing: the salary was barely enough for current expenses, seldom adequate even for those. One found it necessary to borrow before the end of the month, a habit of the mail employees, as it had been of the telegraphers of that earlier period. They borrowed regularly from one another or from any available source. But they also paid—it was a continuous chain of borrowing from Peter to pay Paul. Vail's pay was based on a schedule of thirty days a month. Another day meant an extra day's pay, and such months were welcome. Omaha was not a cheap place to live in; coal was twenty dollars a ton.

Theodore Vail did not give out a contract for his house; he hired a carpenter and did a part of the work himself during his alternate six days at home. When it was finished and furnished they were very proud of it. Its location on Convent Street—now No. 24—was in the outskirts. No sidewalk ran out to it, only a dirt road along which one must pick his way in bad weather. A neighbor named Ball lived on the next lot, and a mail clerk, Andrew Griffin, lived back of them, their three lots adjoining in the rear. There was no general water system and they could not afford each to own a well, so they dug one in company, and all used it. It was located so that no one was obliged to carry water farther than the length of his lot.

The hospitality of the little house was out of all proportion to its size. When the young husband was at home there was company nearly every evening, and usually somebody for dinner on Sunday. The mail clerks came in to discuss the service and how to improve it, for it may be taken for granted that Theodore Vail would never be satisfied with the primitive system and organization as he had found them—a matter we shall take up presently.

There were other friends besides those of the mail service. Casper E. Yost, postmaster of Omaha, jolly, and liberal in the matter of loans, was a welcome visitor; then there was a young wholesale grocer named Cummings, a breezy Western product, with a fund of stories not always suitable to the drawing-room. Fortunately the little house had a small veranda, a delightful place in summertime. A young

law student, William J. Connell, was another frequent and favorite visitor. With him Theodore Vail could discuss the problems of life and death, and broaden his philosophies, which hitherto had been confined within orthodox limits. Often their talk drifted to legal matters, and Vail developed a taste for the law. He had tried medicine, telegraphy, drugs, farming, school-teaching, and the mail service; he resolved now to become a lawyer, and was presently reading in Connell's office during most of his time off duty. He had a garden—a fine one—full of flowers and vegetables; this afforded recreation, but he preferred the law books. He had a natural taste for legal matters and under different circumstances might have become a distinguished jurist.

His ambition at the time did not look so far ahead. When Connell was elected prosecuting attorney Theodore Vail said to him:

"When you get through with that job, if I can get elected to it I'll be the happiest man in the world."

The position of prosecuting attorney paid fifteen hundred dollars a year, and was a stepping-stone for a young lawyer. Vail continued his legal reading during most of his residence in Omaha, and he must have found the knowledge thus gained of considerable benefit in his work of later years.

Andrew Griffin, the mail clerk already mentioned, was perhaps oftenest in the Vail home. The Griffins were their next nearest neighbors and Mrs. Vail and Mrs. Griffin did their marketing and shopping together, often coming home with "Colored Joe" in the delivery wagon. They were all young and shared their econ-

omies and domestic problems, and borrowed money from one another, and if there happened to be anything left when the bills were paid they spent it going to the theater. Now and then Vail got passes and a brief leave of absence and went with his wife, or perhaps sent her alone, on a visit to his parents in Waterloo. When she found herself lonely in the little house during his absences, his sister Mary, now a young girl of about sixteen, came out and made her home with them. Those were simple, happy days.

The Vails remained about four years in Omaha—years that brought little in the way of affluence, but that were vastly important as preparation for those that lay just ahead. It probably never occurred to Theodore Vail when he became a postal clerk that he had reached a turning point in his life, or that his association with the service would continue through a period of nearly ten years and develop into what was nothing less than a career.

Chapter XI: The Way of the Mails

IT seems proper here to give some account of the Federal organism of which Theodore Vail had become a part and in which he was presently to become an important factor. The American Railway Mail Service had been of slow development and was still clumsy and primitive in those later '60's when he entered it. Some effort had been made to distribute mails on the train for connecting points, and as early as 1862 clerks were allowed to assort the overland mail on the trains between Quincy, Illinois, and St. Joseph, Missouri, in order that the stages waiting to carry it across the plains might not be held during the hours required for terminal distribution. Here and there in the East something of the sort had been attempted, and in 1864 a few special mail cars were tried—an experiment which, through lack of funds or because of the sluggish indifference and stupidity of Congress, was not followed up. At no time was there any system devised to expedite such work, and in the majority of cases travelers by train made far better time than letters.

When Theodore Vail became a mail clerk on the Union Pacific Railroad there was really nothing resembling the railway post office of to-day. Mail sacks were put on at a terminal point, marked for the stations along the line. At these stations other sacks were put on. The latter were opened and from their

contents mail for local points was selected. The remainder was put back into the bag, which was dropped off at the first so-called "distributing station," where the contents were examined and started forth again on their travels, sometimes in the right direction, sometimes not, according to the knowledge and disposition of the officials. Letters were often weeks, even months, on the road, and arrived at their destination stained and travel worn. The postal employee was not required to have any geographical knowledge beyond his own particular line. He held his place by political appointment, and his general idea was to get through his work with the least amount of time and effort, and to draw as much pay for it as his influence at Washington would command.

Young Vail had a somewhat different idea. He wanted as much money as possible, but he didn't care to depend entirely upon influence to obtain it. Furthermore, his natural bent for improving things found a fine opportunity for action in the primitive system of mail distribution. There was not much in the way of connecting lines west of Omaha, but there were connecting stages at many points.

He got into the habit of picking out of the local sacks as they came aboard not only the mail for the Union Pacific stations, but for the small settlements reached by these stages, tying the letters and papers into bundles, with a slip in each, properly marked, thus making it possible for mails to arrive a day, two days, even a week, earlier at their destinations. He bought himself maps and marked out on them the connecting routes, and he memorized the names of

the towns on each. Then it occurred to him that a chart conveying this information would be valuable, and he constructed one on a card—a simple scheme showing the connecting points and the names of the towns thus reached. This he tacked up in his car, where he and his associates found it of the greatest assistance and began to take pride in working the mail with a view to sending it along in the quickest time and with the fewest mistakes. The stages at the distributing points no longer had to wait while sacks disgorged their mixed contents to be assorted and discussed by inefficient and uninformed grocery clerks and bartenders. The sacks contained only bundles, each properly tied and labeled. The stages could be off at once. Vail and his companions had planted a seed that would grow into civil service reform.

It was planted at the "right time of the moon." George B. Armstrong, of the Chicago Post Office, a pioneer in the advancement of all matters pertaining to the mails, in 1869 had been appointed General Superintendent of the Railway Mail Service. Armstrong had brought the Chicago Post Office to the highest standard then possible, and made it a model for others to follow. He determined now to revolutionize the Railway Mail Service and cast about for new ideas from whatever source. Some rumor of what the boys were doing on the Union Pacific came to him, and perhaps similar suggestions from elsewhere, though if there were any routing schemes in use at that time other than those prepared by Theodore Vail the record of them has disappeared.

At all events it was because of this work that Vail was selected for the run between Iowa City and Chicago, mentioned in the previous chapter, and later made chief clerk of the Union Pacific division. Vail and his associates of the Iowa City run—James E. Stuart, "Fatty" Gates, and the others—made up schemes for that route, and the work thus gradually begun extended through the West, until General Superintendent Armstrong ordered a few cars fitted for this more elaborate form of distribution. These cars were in the nature of traveling post offices, somewhat resembling those in use to-day. George B. Armstrong, because of them, and for the work he so ably forwarded, has been called the "Father of the Railway Mail Service."

Armstrong, however, did not live to mature his plans. In May, 1871, after a little more than two years of office, he resigned because of failing health, and died two days later. His successor in the Chicago Post Office, George S. Bangs, of Aurora, Illinois, having worthily carried on the work in Chicago, was now appointed to succeed Armstrong in Washington. Bangs was the right man in the right place. He was a tireless worker, unselfish and lovable, his one idea being to carry on and extend the great work which Armstrong had begun.

The plan of working the mails by means of charts or schemes was still little known. The postal clerks as a rule did not welcome it. It meant additional work for them, and that they must get down and dig to acquire the requisite knowledge of geography. It is hardly necessary to say that every step in the direc-

tion of civil service reform, or whatever has required effort and knowledge, has been steadily opposed by those benefiting by political patronage. In that day the vast majority of Federal employees in every department were men incapable of making a living through ordinary means, dumped upon the government by unscrupulous politicians. From the earliest day of the mail service its growth had been impeded and retarded by time-serving officeholders, their practices often aided and abetted by those occupying places of the highest trust.

George S. Bangs was not of that stripe. With him the welfare of the service came first, and he was able to communicate something of his purpose and energy to his assistants. He selected men for special work, regardless of their political rating.

For one thing, Bangs proposed to extend the idea of scheme distribution and to require from the clerks a wider knowledge. He was well acquainted with "Jim" Stuart, and one day in Chicago asked him to name a man qualified to carry out these ideas. Stuart promptly named Theodore N. Vail as the man who had begun this work in the West. Bangs's assistant superintendent, W. L. Hunt, had also known Vail during the period of the Chicago and Iowa City service. Hunt agreed with Stuart that Vail was the man for the job, with the result that somewhat later Vail was notified to report at Washington as early as convenient. This was in February, 1873. He made his last run about the end of the month.

The summons to Washington created a stir in the Omaha Post Office. It was national recognition of

an associate for whom good things had long been prophesied.

Of course it was necessary to borrow money for the journey. Yost advanced the required sum and Cummings agreed to take care of certain maturities and other business details incident to the change. Mrs. Vail would remain for the present in Omaha. If the Washington arrangement turned out well they would sell the house.

Her husband did not take a cab to the station. When the moment came for departure Andy Griffin picked up the young man's bag and walked with him down the muddy road. One or two friends were at the train. Theodore Vail's days in the West were over. They had continued about seven years—a priceless seven years, reckoned in experience, observation, and contact with men.

Chapter XII: Reforming the Railway Mail

IN Washington the new assistant was nominally assigned to the New York and Washington Railway Post Office, then under the direction of Chief Head Clerk Frank Riblett. Vail's work, however, was in Washington—his position being that of special assistant to General Superintendent Bangs. For some reason Bangs seems not to have been immediately impressed with the young man from Omaha. Meeting Stuart a few days after Vail's arrival, he said:

"Jim, what did you unload that fellow onto me for?"

"Wait a little," said Stuart; and some weeks later, meeting Stuart again, Bangs said:

"Jim, Vail is the best man I ever had. I want to take back all I said. I am going to make him Assistant General Superintendent by and by, when I find the right place for Hunt."

As for Theodore Vail, he had been devoted to Bangs from the start. He recognized in him a big, powerful, warm-hearted man of great executive ability, as well as political strength—the latter resulting not from intrigue, but from personal charm. Bangs and Vail in a brief time became the closest friends, working together in absolute harmony. Indeed, a deep affection grew up between them. Many years later Stuart, speaking of their friendship, said:

"No man ever loved another more than Bangs loved Vail, and Vail returned it all."

Bangs had brought Vail to Washington to develop the distribution idea, by constructing schemes for the different states, and lost no time in setting him at it. It was the biggest, hardest job ever given to one postal assistant, and something entirely new. East of the Mississippi the country was already a network of railways; it was his task to familiarize himself with the intricacies of their ten thousand connections, with their innumerable stations and all the tiny rural post offices which they did not reach. This knowledge acquired, he must convey it section by section to the mail clerks in the form of schemes—charts so simply and accurately designed that even the most stupid political favorite could, if he so willed, learn how to distribute the mail on his particular line in a manner that would insure proper connections, and arrival at its destination with reasonable promptness. Theodore Vail took up this gigantic geography lesson, one state at a time, beginning with what seemed the easiest ones, that he might acquire experience as he went along. It was the kind of work he loved, but it nearly killed him. He thought of nothing else, talked of nothing else, studied the maps and postal guides far into the night, bent over his desk all day. Also, he made trips to Chicago, to consult with Stuart and other expert officials—among them Capt. Maurice J. McGrath, superintendent of the Chicago district, and Capt. James E. White, during many years prominent in the postal service. Stuart and McGrath especially became worked up over the scheme-building project. Vail was with them constantly, and wherever they were—at the post office, on the street, or seated

around the table in a favorite cellar on Dearborn Street—the talk was of nothing but routes, connections, checking slips, and the various possibilities by which a day or an hour could be saved in delivery. They were often in McGrath's home, where even Mrs. McGrath joined eagerly in this favorite indoor sport which kept them up until far into the night. The smallest towns were considered. A rural post office receiving ten letters a week became a matter of earnest discussion. It was the most gigantic puzzle in the world they had undertaken to solve—a puzzle at which no one had ever worked before.

The incessant labor combined with the Washington summer heat was too much even for the iron constitution of Theodore Vail. His health became poor and it seemed he would be obliged to give up his work. On his arrival in Washington he had occupied with his cousin, Henry Harrison, at this time connected with one of the departments, a small second-story room at No. 507 Twelfth Street, between E and F, in a building still standing. This was in easy walking distance of the Post Office Department, then also between E and F on Eighth Street. By summer, however, Mrs. Vail and the boy had arrived in Washington, and the family was now located in a house on S Street, considerably farther away. Vail, confined to his room, often to his bed, with a malarial fever, had men come up from the office daily with proof sheets of schemes already completed, and for consultation as to those still in hand. It was impossible for him to forget the work or to keep his hands out of it. An associate in the office, M. V. Bailey,

sent up an emphatic note urging him to let business alone, and get well.

> Vail—you are a h—l of a fellow. You left here *sick*—you're sick now. You say you are "nervous," when the fact is you are weak as a kitten, and ought to be off in the country somewhere, where you could wander about, all that your strength would allow you, and rest your head, and *get well*. On the contrary, you are up there in the city, puzzling your head over the d—d old schemes, and at this rate you can expect to get well sometime next year. . . . I recollect a similar case to yours where an Irishman stuck his head up over the breastworks thinking to get a scalp-wound that would give him a furlough, when a shell came along and took off his d—d head. You keep sticking your head up and these schemes will fix *you*.

Bailey urged him to take his wife and boy to the mountains of New Jersey, where he could catch fish, shoot sparrows, and kiss a pretty country girl and let his wife catch him at it. There were several pages of this admonition, and across one of the most violent, in blue pencil was written the words "Approved, W. L. Hunt, Boss." This was about the middle of October. Cooler weather came presently, and he was back in the office, grinding away at the work that would galvanize with new life that great torpid organism the Railway Mail Service.

It was one thing to build the schemes and another to get them used. There were plenty of good, intelligent, industrious postal clerks ready to welcome anything that would improve the service; but there was also a very large element of those already mentioned, men who held their jobs only by political favor, with no desire for any change that meant increase of effort or vigilance. To make such men

efficient was next to impossible. To weed them out was a task not only gigantic, but one beset with dangers at every turn. To summarily discharge a clerk, however inefficient, was to make an enemy of a congressman; to make an enemy of a congressman was to run the risk of killing an appropriation necessary to the advancement of the service, even to the very existence of the new system. General Superintendent Bangs was probably the only man in the nation able to cope with these conditions. His friends in Congress were legion, and he had a personal charm that in argument seldom left his opponent unconvinced, and still more rarely his enemy. Urged by Vail, Bangs now determined to make the clerks qualify for their positions by study of the schemes, and to test them by such examinations as Vail and his associates had already inaugurated farther West. "Civil Service," long before it became a law, was thus to be established by official order.

They must begin slowly, of course. It would not do to stir up general revolution. They introduced the reform on lines remote from centers of influence and where the new work involved was comparatively simple. Here and there trouble developed, but Bangs in such a case reasoned personally with the congressman responsible for the disaffected employee, and gained his point. Furthermore, he had the backing of the Postmaster General, John S. J. Cresswell, who had been easily won over to the new idea. When a congressman protested Bangs would show him the poor record made by the discharged clerk, with the statement:

"You may name anyone you please to fill the vacancy, but when the appointment is made the appointee must likewise stand the examination; if he fails you can again name some one for the place. The man who proves himself equal to the work gets the job, and he can keep it, for we need good men."

This seemed reasonable, and was usually convincing. It naturally resulted in better appointments being made, and the service improved accordingly.

The Railway Mail Service had been up to this time like some huge dormant animal, functioning sluggishly, but more than half asleep. It was not safe to rouse it with a single shock; it must be approached diffidently, and locally prodded into life. There came a time, however, when Bangs decided that the moment had come to apply his remedies to the monster's torpid heart. He determined to install his system of examinations on the New York-Washington service.

As already noted, this service was in charge of Frank Riblett, who was in hearty sympathy with the new idea. It was, however, the danger point of the entire railway postal system. The New York-Washington line ran through Elkton, Maryland, the home town of Postmaster General Cresswell, and a number of his personal friends and neighbors held appointments as clerks.

One must stoop to conquer. Bangs had no desire to antagonize Cresswell. There were some thirty clerks in this service, and beginnings were prudently made on those residing a reasonable distance from Elkton. It should be said, perhaps, that the exam-

inations were similar to those in vogue to-day. The candidate was placed before a "case"—that is to say, a section of pigeonholes labeled with the names of towns and railway connections. Into these he was required to distribute bunches of labeled cards, in accordance with the newly prepared scheme, to which he was not allowed to refer during the distribution. The cards were then taken out and errors noted. If they totaled more than a certain number the candidate must either give the scheme additional study and try again, or resign. It worked out as Bangs had planned. Cresswell, shown the result of the earlier examinations, expressed no desire to interfere with the work. Bailey, in a letter to Vail of this time, wrote:

> Bangs saw the P. M. G. and he says the N. Y. and Wash. *must come to examination* (how is that for high?) P. M. G. has written to L—— [a Congressman] telling him to mind his d—d business, and let Railway Mail Service alone (or words to that effect). And everything is doing as well as could be expected, under the circumstances.

But now came the Elktonians. Riblett made his beginning on the most promising ones, who managed to get through with no great difficulty. Then followed a Methodist elder, who had been running on the line for a number of years and had about as comprehensive an idea of his work as on the day of his arrival. He looked like a dangerous proposition, for he was powerful in his Church, and the Church was politically powerful in Elkton. He failed at the trial, balked, and refused to qualify, relying, no doubt, on his influence. He was dismissed, however, and no

serious trouble resulted, another and better man being appointed in his place. The final Elkton candidate was a young man of hot Southern blood, who, after distributing a few cards into the case, threw down the remainder and challenged Riblett, who was of slight physical caliber, to personal combat. Riblett reasoned with him, at last persuading him to try again. He made a second and third effort, by which time it was eleven o'clock at night. He was then less warlike, and, being calmer, managed to get through. Thus ended the first series of New York and Washington examinations, with victory for the department. After that they came periodically, and no further trouble developed. Civil service reform, which had hitherto been scarcely more than a name—hardly that, indeed—had suddenly become a fact.

The business of making schemes and holding the examinations now went steadily forward. Vail got Bangs to make the appointments for six months, and to have each man's name stamped on his package of letters, with a slip inside on which errors in routing were to be noted. A new applicant was put first on newspaper distribution while mastering the schemes. At the end of his probation, all being satisfactory, he was given a permanent appointment.

The new system worked pretty well, but its promoters did not always have smooth sailing. Trouble broke out here and there; important bills providing appropriations for the maintenance and improvement of the service were often threatened, or the amounts reduced. But Bangs and Vail were a powerful team. The one with his wide acquaintance, convincing per-

sonality, and resolution; the other with a resolution no less determined, constructive imagination, and a gift for collecting and presenting conclusive facts that has rarely been equaled. When, as happened presently, there arose a heated controversy between the government and the railroads concerning the compensation paid to the latter for carrying the mails, Bangs appointed Vail to prepare a report covering the situation.

It was a work involving the financial history of the Post Office Department and its relation to the railroads from the beginning. This required an immense amount of digging, and when completed refuted most of the biased assertions made by the roads and supported by papers subsidized in their interest. Vail's report was regarded sufficiently important to be printed and distributed by the department. It was a calm, dispassionate brief, and on the whole favored a readjustment of conditions, so fair to both sides that railways modified their demands and newspaper propaganda ceased. This was in the spring of 1874, when Vail had been connected with the department one year. It was soon after this that W. L. Hunt was appointed a division superintendent with headquarters at St. Louis,[1] leaving Bangs free to carry out his early intention of making Vail Assistant General Superintendent, in rank second only to himself.

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[1] Eight divisions of the mail service were created at this time and their superintendents appointed as follows:

(1) Thomas P. Cheney, Boston; (2) Roswell Hart, New York; (3) M. V. Bailey, Washington; (4) L. M. Terrell, Atlanta; (5) C. J. French, Cincinnati; (6) James E. White, Chicago; (7) W. L. Hunt, St. Louis; (8) I. A. Amerman, San Francisco.

Chapter XIII: Second in Command

IT was not all as easy as it sounds. Postmaster General Cresswell would seem to have had another candidate for the position, and at first declined to sanction the promotion. He had immense respect for Bangs's wishes and a high appreciation of Vail's services, but politics largely controlled such appointments. Pressure had to be brought to bear in the form of a tendered resignation from the service, on the part of Vail.

Fortune played into his hands. A year earlier Samuel M. Bryan, a capable clerk in the department, had been appointed, through the United States minister to Japan, to organize a postal service in that country. Bryan at the time had offered Vail the position as his assistant, and the young man had been considerably tempted by the attractions of the foreign post. He had declined, however, on the ground that his work of scheme making was of more value and importance. Now, a year later, with the postal reforms well under way, Bryan had become again insistent, offering a salary more than double the amount thus far received by Vail. Bryan was at this time in Washington, and at a moment when it seemed that the Postmaster General's adverse decision was final, Theodore Vail accepted the Japanese proposal, sent in his resignation, and began preparations for an early departure. When this fact came before Cresswell he experienced a quick

change of heart and ratified Bangs's nomination of Vail. This was on July first, 1874.

The papers announced the fact of his promotion and letters of congratulation poured in. Next to Bangs he was already more widely known and more popular than any other man in the service. That his hard work had so promptly been recognized was believed to be an evidence that the department was at last awake. From Chicago, from Omaha, from all about came messages full of good wishes, even of affection. A fair example was one from J. B. Furay, of Omaha, a former clerk, and by this time special agent in that district. Furay wrote that he had seen notice of the appointment and added:

> I hasten before I eat my breakfast to say, "May the God of prosperity cherish the hand that has extended to you this long merited recognition of your devotion and fidelity to the interests of the Department." Vail you have, as we all out here feel, faithfully *earned* the laurels won, and we hope to hear of your continued recognition, for we have faith that you belong by nature still further along up the scale.

But without doubt the most satisfactory word was the single line at the end of a letter from his mother:

"I am proud of you, my boy."

One does not always get recognition from his own, and it is valued accordingly.

The increase of salary was an important feature of the new position. It was nominally sixteen hundred per year, but there was an allowance of five dollars a day for "expenses" while in Washington, with an additional traveling allowance. His pay was, therefore, just short of thirty-five hundred dollars a year,

or about double what it had been before. Certainly that was a great help, though it developed presently that it was still not quite enough. No salary would ever be enough for Theodore Vail, who all his life spent money with an open hand—indeed, with both hands open—in his own home and among his friends. Frank Riblett, who saw a good deal of him in those days, long afterward wrote:

> His habit of lavish expenditure—though it was more than a habit it seems, it was a natural trait—I never could understand. He seemed to act on the certainty that the money would be forthcoming in due time. And it always was.

The old system of borrowing that had prevailed in Omaha, and earlier in New York, was in full swing in Washington, and Theodore Vail would seem to have been about its most distinguished exponent. It is said that he kept one of his clerks busy negotiating his loans. They were usually for fifty or a hundred dollars, and sometimes—quite often, perhaps—he invested these modest sums in a few shares of some patent right that promised to revolutionize one of the world's important industries. These mechanical curios always fascinated him, and he collected stock in them as another might collect postage stamps or old prints. Once he joined with two associates in a company to perfect and promote a self-binding attachment for a harvesting machine, the thing he had himself proposed to invent that day with "Chet" Green on the Iowa farm. None of these ventures came to anything, but they all promised well and one after another kept him hopeful. Even their final collapse never discouraged him.

In fact, whatever the disaster, there was probably never a moment in Theodore Vail's life when he was overwhelmed by defeat. In those Washington days when a venture disappointed him, he was presently borrowing another fifty or hundred dollars and looking up a new one. He paid well for accommodations—the usual rate of interest being twelve, sometimes even as high as eighteen per cent, but he was always willing to pay the market rates. He had a natural gift for credits, which, thus cultivated, would become a valuable asset later on.

The breezy, woolly Cummings, mentioned in an earlier chapter, had charge of Vail's business affairs in Omaha, and disposed of the little house on Convent Street for him, cleaning up things in his sudden, efficient way, denouncing Vail in nearly every letter for loading him up with these matters, adding the latest gossip and stories of a kind hardly qualified for print. Cummings was a good soul, honest and faithful, but a human buffalo—a species now well-nigh extinct. Andy Griffin and his wife wrote post-office and neighborhood news, and every little while there came a letter from Yost, or "Yosty," as they liked to call him, who generally had trouble on his hands with some one that was trying to undermine his authority and upset his orders. There were pleasant letters enough, but there were hundreds besides that poured in from many directions, asking, demanding, pleading for one thing or another—advancements for their writers or destruction for some enemy—for everything, in fact, that one in his new position was supposed to be able to grant.

He had become so widely known through the changed order of things which had taken power from the politician and conferred it on the Department, that it was believed he was all-powerful and could grant whatever he chose. To the West, which claimed him, he had become the pivot upon which the service seemed to revolve. Most of those who applied had seen him, many of them had known him personally during his five years' connection with the mails, and regarded the stalwart, handsome, hearty man as a friend at court on whom to lay their burdens. They showered him with all their troubles, their quarrels and disappointments, then presently became annoyed, sometimes even abusive, because their affairs did not receive his personal attention. He was never a letter writer, and certainly in the midst of the great work of the moment he had little time to waste on individual problems. Going through the heaps of old letters one gets the feeling that they disturbed him about as little as the wrangling of the dragomen at Gizeh disturb the Sphinx. He took care of the worthy ones, saw that they had jobs and kept them, but he rarely answered letters and never took part in disputes.

Perhaps Vail and his wife were not entirely weaned from Omaha, for in a letter to her he refers to the possibility of becoming a division superintendent, with permanent headquarters there, hinting at a political future in which her "aspirations to be a governor's wife" might yet be realized. But this we may believe was a passing fancy, not to be heard of again.

Chapter XIV: The Fast Mail

HAVING got the new plan of distribution well under way, Bangs and Vail now turned their attention to another matter, of less importance, perhaps, to the country at large, but in effect far more spectacular. They had conceived the idea of a fast mail—a line of swift trains, for mails exclusively, between New York and Chicago, stopping only at the important cities and covering the distance in approximately twenty-four hours. This was their dream, and they now proposed to make it reality.

Letters still did not travel as fast as passengers, and Bangs and Vail thought that they should travel faster. They could hardly hope in the beginning to obtain the maximum of speed proposed, but they did resolve to get the trains. What at first seemed a serious obstacle was the resignation of Postmaster General Cresswell and the appointment of Marshall Jewell in his place. Jewell was thought to be for conservative measures, and Vail confided to Bangs that he was worried. He was urged to keep cool and see what would happen. Bangs interviewed Jewell and won him completely; no one could withstand Bangs's charm. The new Postmaster General gave the plan for the fast mail his fullest support.

They took the matter up in a preliminary way with officials of the different through lines, and as early as the spring of 1874 received from E. D. Worcester,

secretary to William H. Vanderbilt of the New York Central, a tentative proposition detailing the possibilities of the scheme, and the general terms upon which it might be carried out. Mr. Worcester wrote that he had discussed the proposition with Mr. Vanderbilt, who had authorized him in behalf of the Lake Shore & Michigan Southern and New York Central lines to say they were willing to put on the trains, provided a number of points could be adjusted. The letter is a long one, and only an item or two of it need be included here:

> We cannot undertake to run the Train in less than *twenty-eight* hours *actual time*—which would require about 33½ miles per hour, including stops. . . . An attempt to make better time on so long a route would make everything uncertain, even if it did not prove absolutely futile. . . .
>
> We will build the special cars—not to be over fifty feet long, and as wide as the operating of our tracks will reasonably permit, and will fit up the interior upon such plan of shelves, counters, etc., as you may direct—it being understood that each train is to have three of these cars (one each of three kinds) and that any other cars needed may be of the present postal pattern, or cars without special interior fittings.

This was the gist of the proposal and Vail and Bangs did not fail to follow it up. There was much to be done; some special appropriations were necessary to provide for the cost of this new venture, and there must be no mistake in the construction of the cars. Vail was hurried over to England to secure all possible data, and came back with a number of new ideas, including the vestibule platform, then unknown in this country. But this was only a beginning. In some recent notes Frank Riblett wrote:

To appreciate the difficulties in the way, one must stop to consider that the railroads had been sullen and fighting the government for more pay for the existing facilities furnished in car space, trains and mileage, and imagine what it meant to present to them a proposition for a *daily train each way* between New York and Chicago, made up exclusively of mail cars, twenty in all, built new and specially fitted for this mail service only. These trains were to be run on a time schedule faster than any regular train had ever been run. To quote Mr. Bangs, in a reply to a suggestion made by the present writer, as to the positive danger involved: "Everything will keep out of their way and nothing can overtake them."

It is unnecessary to go into a detailed history of the Fast Mail. Whatever the difficulties, they were overcome. Something more than a year following the preliminary negotiations, July 20, 1875, William H. Vanderbilt over his own signature furnished a detailed memorandum covering the terms under which the new trains would be run. It began as follows:

The present rate of mail pay is not sufficient to warrant Railroad Companies in establishing a Special Line at the rate of speed that is herein provided—but believing the general public will fully appreciate the benefits it will afford, and that Congress, being aware of these benefits, will, at an early day, provide for suitable compensation for this service, having reference to the essential elements of *space* and *speed*, they are induced to establish the line and offer it to the P. O. Department.

The line to consist of a daily train, each way. Each train to consist of four cars, as follows:

1, for assorting letters,
1, " " newspapers,
1, " Supt's office and bulk mails,
and 1, " bulk mails only.

The memorandum provides that the time of the trains between the terminals shall not exceed twenty-eight hours, and that four of these trains are to be

provided complete. Payment is to be made by weight, according to the custom of that day, and the writer refers to Mr. Bangs's estimate that the daily movement of mail matter by these trains should equal forty-two and a half tons. The memorandum contains a further suggestion that while these special trains would be carrying mail at the regular rates, "modifications" of these terms are desirable, owing to extraordinary conditions of space and speed, and asks that the Post Office Department recommend the same to Congress. It was all in the nature of an experiment, and the memorandum went no further than to provide for a contract to be made at some future time "when a substantially permanent basis" had been reached concerning the volume of matter to be carried, etc.

All arrangements having been finally completed, orders for the new cars were given, to be ready by September. It was decided to make the trains a striking feature of the landscape by painting the cars white—the words "The Fast Mail" and a special name for each car to be lettered on them in gold. Two of the cars were to be named "Commodore" and "William H. Vanderbilt"; but the Vanderbilts objected, and neither Postmaster General Jewell nor General Superintendent Bangs would consent to have his own name used. Those of various Governors, such as Tilden, Dix, Todd, and Morgan, were finally chosen, the four cars thus entitled composing the first train.

The 16th of September was planned as the date of beginning the service, and schedules were prepared accordingly. The department at Washington was

so absorbed in the preparation—orders for connections along the line, the erection of the cranes for catching sacks on the wing at points where the Fast Mail would not stop, etc.—that instructions to the Mail Department in New York to make special provision for this radical new departure were entirely overlooked. Assistant Superintendent Vail suddenly awoke to the fact that unless something was promptly done about it their fine new cars would leave without anything in them. There were only a few days to spare. He hurried to New York, worked night and day with a staff of clerks to get the revised schedules arranged, then, when everything was safely in order, the mails aboard, and the first great new train under way, he fled to relatives in Parsippany for rest. He had meant to go with it, but he no longer had the desire. All that he wanted was sleep.

The first Fast Mail left New York City September 16, 1875, at 4.15 A.M. Sunrise found the beautiful white-and-gold carrier speeding up the Hudson at the rate of more than forty miles an hour, with thirty-three tons of letters, packages, and printed news. There were no passengers—those on board were a small army of clerks, working like mad, some newspaper men, and officials of the Postal Department, at the head of whom was George S. Bangs, a part of his own dream come true.

All the country was watching the spectacle; no newspaper reader that day but knew that a great experiment for bringing the East closer to the West was being tried. Many had prophesied failure, and certain cities—rivals of Chicago—would have wasted

few tears on such a result. Along the line there was a different feeling; crowds gathered to watch for the white-winged messenger and to cheer it on its way.

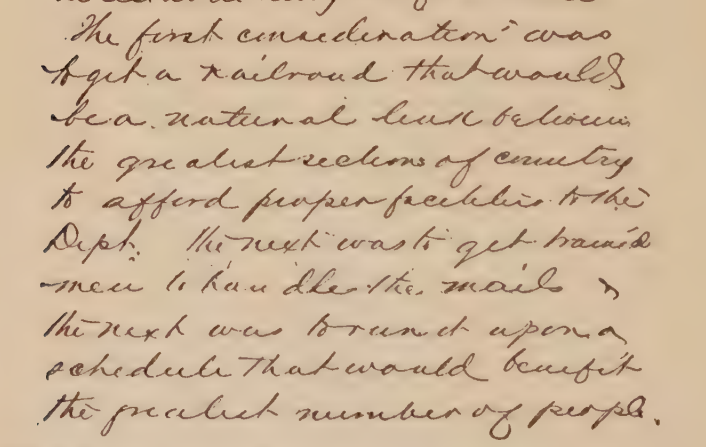
All the prophets of evil were mistaken. The Fast Mail was on time at Albany, still on time at Buffalo, where it swept in exactly on schedule, at three o'clock that afternoon. From Buffalo by the Lake Shore & Michigan Southern it fled across Ohio and Indiana, once losing twenty-five minutes because of a hot box, but making it up in the distance that remained, gliding proudly at last into La Salle Street Station, Chicago, at 6.47 next morning, eight minutes ahead of time! A great crowd had gathered on the platform, but there was one on the train who did not hear their shouts of welcome. The strain on the last engineer had been too great; he had fainted at the instant of bringing the train to a standstill, and was lying on the floor of his cab.

The average speed made by the Fast Mail on this first run, including stoppages, had been more than forty-one miles an hour. No such run had ever been made before, and the country rang with it. Newspapers had bulletined the train's progress across the states, and now in extras announced its triumphal arrival. For the first time in American history mails had traveled faster than men.

Congratulations came from every side. Postmaster General Jewell sent a special personal telegram to Bangs and another to Vail, who, it should be noted, had gone back to the New York Post Office and during a fortnight remained there, attending strictly to business for sixteen hours a day, crawling into a bed in

the Astor House for sleep. The thing was a success; there must be no hitch now, at least so far as the postal functions were concerned. Every morning a white train went out and it must be properly loaded; every morning a white train came in, and its contents must be on the street in the hands of the carriers for the first delivery. There were many anxious enough to criticize the experiment—politics would furnish a motive; it was for him not to supply the excuse.

It was no longer an experiment at the end of the fortnight. Nothing had happened; everything was working smoothly; would-be grumblers had concluded to hold their peace. For the benefit of those cities not entirely pleased with the routes selected, Vail made a statement setting forth the genesis of the new train, with the reasons for the route's selection.



BEGINNING OF SUPERINTENDENT VAIL'S STATEMENT CONCERNING THE FAST MAIL

Chapter XV: Theodore N. Vail, General Superintendent

THE year 1875 for Theodore Vail ended with a real climax—one that in a larger way duplicated that of the year before. George S. Bangs had for some time been dissatisfied with the financial aspects of his work. The total pay commanded by his position, including the five-dollar daily allowance, was less than forty-five hundred dollars a year, a sum ridiculously small for a man of his age and capabilities. The American Express, with headquarters at Chicago, had tendered him an important executive post there, with duties far less trying and pay more liberal. General Grant, then President of the United States, had also asked him to take a position as Sub-Treasurer, at better pay than he received in the Postal Department. Bangs decided to accept this appointment, also to make a connection with the Express Company, one he could maintain with his government work. He confided to Vail that he was going to resign his position as General Superintendent of the Railway Mail Service, and that he wanted his assistant to succeed him.

It was universally recognized that Vail was the man for the place, but, as had happened before, politics began to cast a covetous eye on this desirable appointment. Curiously enough it was Bryan in Japan who once more came to the rescue. He had never quite given up having Vail with him, and just at this junc-

ture he wrote urgently, offering the position of Assistant Superintendent of Foreign Mails, with a salary equal to that received by the General Superintendent in Washington. This was at the end of October, when prospects for the Washington appointment were not very bright. Vail was troubled by the outlook; for one thing, he did not relish the idea of not having Bangs to lean upon, and then he found political uncertainties discouraging. He sent a letter to Bryan accepting the foreign post, and in due time his official appointment came, with the request that he report in Japan as soon as possible after the first of the year.

Meantime, something had been going on. The Railway Mail Service was George S. Bangs's pet and pride; he had no desire to leave it in strange hands, however capable. He made known Vail's decision, setting forth pretty emphatically what was likely to happen to the Department under the prospective change. Furthermore, he assured Vail himself that he, Bangs, would be always subject to call, for consultation and advice. Bangs was not a well man and he was taking too big a load. But that was Bangs's way —no burden was too great when it meant service to a friend or to a public cause.

It turned out just as before. Jewell, like Cresswell, repudiated political claims and placed the appointment where it belonged. George S. Bangs resigned, and with the beginning of the new year (1876) Theodore N. Vail became General Superintendent of the Railway Mails. In the seven years since his first connection with the service he had progressed from

the humblest place in the ranks to the highest place the department had to offer him.

Out of the heap of congratulations that came to Theodore Vail on his new appointment, one is of special interest in that it indicates the beginning of the work for which he had become most widely known. It was from E. L. Alexander, special agent in San Francisco, formerly a clerk on the Iowa City and Chicago run. He wrote:

> I cannot forego expressing the pleasure I feel at the promotion of one detailed for special duty on the Chicago and Iowa City route, the commencement and real inception of distribution on the cars, and of Fast Mails.

Chapter XVI: The Hard and Devious Way of Office

THEODORE VAIL once said:

"When Bangs left and I took the post, I had an idea that I could go right along doing things just as he had done them. I soon found out my mistake. Bangs was a kind of Jim Hill—nobody could resist him. I had to fight for most of the things I wanted, and I had to call on him more than once for advice and assistance."

He had begun to call on Bangs very soon—and pretty anxiously. A new Congress came in, and with clamlike intelligence proposed to cut down by ten per cent the rate of payment made to the railroads for the Fast Mail service. Blatant and bone-headed reformers had set up a yammer for economy and this was the answer.

At the end of May, 1876, when the fast trains had been in operation eight months, the new General Superintendent received a letter from his staunch supporter, E. D. Worcester, Mr. Vanderbilt's confidential secretary. Worcester wrote:

> Since the adverse action of the House, I have had some difficulty in keeping our people quiet. Mr. Vanderbilt thought we ought to give *immediate* notice that the Fast Mail would be taken off—and he seemed inclined to go even further than that. I told him there was a strong probability that the matter would be corrected in the Senate, and urged upon him that, pending action in that body, it would be *much* more *dignified* on our part, even if it did

not *promote better success*, not to do anything that might be *considered* a sort of threat. . . .

The $600 per mile limitation is, of course, absolutely "killing," but with that removed I think a Bill providing the same rates as Senator Mitchell's Bill contained would be acceptable to us.

Nothing was done by the Senate. The bill for a reduction of the rates was passed in July, and Vail, at his wits' end, began to cast about to see what might be done. The Pennsylvania road, which had at first declined to put on the cars, had done so a little later, and quick mails to St. Louis were going over that route. To have a general stoppage of the new service would be a setback for the whole postal system. Vail took the matter up, not only with the roads already in the service, but with other east and west lines. On July 18th he telegraphed Bangs in Chicago that the fast trains were about to be withdrawn, that he was negotiating with the Erie and Baltimore & Ohio, and that he still hoped for an approximately quick service over the Pennsylvania and New York Central lines. Bangs replied, advising against the Erie and Baltimore & Ohio idea. His telegram ended:

Get the best service you can on Central, Lake Shore and Penna. roads—any other will be unsatisfactory and a useless expenditure of money and energy.

He added a heartfelt expression as to the meddling congressmen: "What a pity it is that all the idiots are not dead!"

The railroads had put money and energy into the new trains and their officials were hardly to be blamed for their resentment. Vanderbilt especially was full of wrath, and within a week following the telegram

mentioned above the fast trains were taken off. The last run was made July 22, 1876—subsequent mails being carried on the regular trains in the old way, arriving from six to twenty-four hours later in Chicago and St. Louis, according to luck in connections. Something must be done—that was certain.

Privately, Superintendent Vail supported the position of the roads, but his duty was to the public. The Pennsylvania and the New York Central were rival lines. It was possible to obtain some advantage from this fact. He discussed the situation with the Pennsylvania officials, who finally agreed that if they could get the bulk of the Western mail they would put on a service about as quick as the Fast Mail and would agree to land matter in Toledo and Cleveland as quickly as the Central. Vail would not pledge himself to this arrangement, but agreed to give them the mails as long as the New York Central refused a similar service, adding that he hoped the Central would listen to reason. A few days later, accompanied by Secretary Worcester, he called on W. H. Vanderbilt. Vanderbilt was far from being in a good humor. He said:

"Mr. Vail, I understand you have made a contract with the Pennsylvania for the Western mail."

"No, Mr. Vanderbilt, I have only agreed to give it to them until you provide an equally quick service."

"Very well," said Vanderbilt, "then I will put all through mails off the road altogether."

Vail reflected a moment, then quietly:

"If you do that, Mr. Vanderbilt, we shall be obliged to reduce the pay for the local mails to a nominal amount per mile."

Vanderbilt was much irritated.

"In that case," he said, "I'll throw off every sack of mail from our trains."

"And in that case, Mr. Vanderbilt, it will become a fight between you and the people living along the road, who will have no other way to get their mails."

The interview did not end very pleasantly and Secretary Worcester was deeply chagrined. Vail, halfway to Washington, was overtaken by a telegram asking him to return to New York. Worcester met him at the station and another interview followed. Vanderbilt had given his secretary authority to adjust matters, with the result that a reasonably quick service with handsome vestibule cars was provided by the Central as well as by the Pennsylvania lines.

Vail, however, did not give up the Fast Mail scheme. He now went to work on Congress on the subject of special appropriations to restore that service. The matter was going along rather slowly when a senator one day appeared in his private office for a confidential talk. Senators and congressmen were always calling on him for one thing or another—usually concerning appointments for some political favorite. Having a poor memory for faces, a clerk prompted him with a slip of paper as to the name and status of his caller. It was not required in this case. Vail recognized his visitor as one prominently concerned with a bill to provide special funds for the department. When they were entirely alone the senator said:

"Mr. Vail, I have every reason to believe I can get that bill of yours through, and I shall be glad to do so, increasing the amount somewhat if the railroads

will agree to allow me a ten per cent commission on the sum obtained."

Vail hesitated. He had known that such things were done, but it was the first time he had been invited to subscribe to such an arrangement. He considered for a moment and decided that the needs of the service were more important than the ethics involved. He said:

"Well, Senator, it is between you and the roads. All I can do is to report to them what you propose."

A day or two later he mentioned the matter to the railway official heads, who seemed to find nothing unusual in the proposition, and promptly assented to it. On May 31, 1877, the second assistant postmaster general reported to General Superintendent Vail that a bill appropriating $150,000, "to be expended in obtaining proper facilities from the great trunk lines of railroads for the Railway Post Office Service during the fiscal year ending June 30, 1878," had been passed. The communication asked him to confer with the Pennsylvania and New York Central roads, with a view to improved service, restoring to them the ten per cent reduction of the previous year.

As a result, the swift white trains were presently running again, and Fast Mail service between the East and the West, so advantageous to the country's business interest, was soon extended to other routes and was never again discontinued. Theodore Vail, years later, telling of the restoration of the trains, said:

"That was the only time that I was ever a party to anything that resembled graft."

An incident which seems amusing now, but which

was anything but amusing at the moment, occurred soon after the fast trains were again in service. Vail made a trip on one of them to St. Louis, and a dinner was given him, in the course of which he was introduced and asked to speak to the company. He had never made a speech of any sort, and after struggling feebly to his feet, hemmed, hawed, hesitated, halted, and sank back into his chair. Next morning the papers reported that Mr. Vail had replied to the chairman's introduction in a very short but felicitous address.

Theodore Vail's days in the mail service were drawing to a close. As we have seen, he had more than once contemplated leaving it for something which promised opportunities for further advancement and larger financial returns. Bangs from time to time held out offers of a position with the express company, and these were tempting. Once he wrote:

> I shall be able to offer you a good place for employment when you can get out of that mill you are in.

But Bangs's health failed completely about a year after his resignation, and in November, 1877, he died, one of the most beloved and honored men ever in public service. One of his old associates, Capt. Maurice J. McGrath, wrote of him:

> I don't know of a man who so endeared himself to the entire service, nor a man who was so successful in his selection of men. His appreciation of their good qualities and his profound judgment on all matters connected with the department were remarkable. His successor in Washington, Theodore N. Vail, General Superintendent of the Railway Mail Service, was formerly a clerk on the Union Pacific Railroad, running from Omaha to Ogden. Mr. Bangs picked him up, took him to Washington, and he now fills

the place once honored by Mr. Bangs himself. Capt. James E. White, Superintendent of the Chicago Division, was chief head clerk on the line running from Omaha to Ogden. Mr. Bangs recognized his talents and abilities, and succeeded in making him his successor here. Walker L. Hunt, Superintendent at St. Louis, was formerly a boy running on the Rock Island Road. Mr. Bangs took him to Washington with him, and he is now Superintendent of that division of the Railway Mail Service. Harry G. Pearson, of New York, was a railway postal clerk, running between New York and Washington. Mr. Bangs recognized his merits, and Harry Pearson is now the Assistant Postmaster of New York. These are only a few instances that come to my mind out of a great many which have come under our notice. In fact, there is hardly an important position in the service, requiring intellect and experience, where the men have not been selected by Mr. Bangs.

Captain McGrath could have added that he owed his own advancement to the man he eulogized. Bangs's friends, with Vail at their head, formed an association to erect a suitable monument to his memory.

Chapter XVII: Last Days in Washington

THE death of Bangs was a grief to Vail and a very definite loss. His position became daily less attractive. Marshall Jewell, who by this time had been succeeded by David M. Key, wrote advising him to get into something more adapted to his gifts. "You are too young and too smart," he said, "to stay in government service." Jewell proposed to assist him in finding a suitable position in some one of the transportation lines, but the matter seems to have gone no further.

It was not that Theodore Vail was tired of Washington—by no means; he liked it there exceedingly. His office associations were congenial, and those outside equally so. He was pleasantly situated in a neat brick house on M Street, No. 309, N. W., in a cozy, handsome neighborhood. His assistant superintendent, John Jameson, lived just around the corner, and Mrs. Vail and Mrs. Jameson were close friends. Nobody ever enjoyed the human aspects of life more than Theodore Vail, and Washington, with its mellow semi-Southern social atmosphere and hospitality, was as his native air.

His special circle of friends were all good fellows. Assistant Superintendent Jameson, Ash White of the Indian office, and one or two others were kindred spirits. Their work was over by four o'clock and they were likely to assemble at a favorite café on

Seventh Street for a friendly game of cards and some rounds of beer. Billy Helmus was the proprietor of this café, a happy, hospitable soul. They were all young, hard working and content, willing to lend each other money and to take the good things of life as they found them. Edward J. Fuller, a brother of Mrs. Jameson, was a mail clerk, and at such times as he was in Washington made one of the company. Fuller still remembers that once when he came in from a trip to Montana he fell in with the Washington group, who, after a visit to Billy Helmus's, chartered two hacks and drove out the Seventh Street road to the old German Schützenfest, where they had a very exhaustive celebration. Vail's cousin, Henry Harrison, still a department clerk in Washington, made one of the party.

It was during the Washington days that Theodore Vail developed his natural taste for choice foods; also for the preparation of them—a distinguishing characteristic of later years. There were famous eating places in the capital, and these with his friends he visited with as much frequency as he could afford. He had a gift in such matters and became a real connoisseur in the selection of foods and wines, and acquired the knack of skillful carving, which, indeed, with him in time became an art. Nothing ever gave him greater pleasure, then and later, than to act as host and carve a brace of ducks or chickens, a fine roast, or a saddle of lamb, and see that all was deftly and properly served. He became what is to-day so rare, a gentleman of the old school, with the comfort and enjoyment of his guests his chiefest concern. It

was an education that in the days to come would afford him a very great, perhaps his greatest, happiness. His five years in Washington had not brought him wealth, but they had provided an experience in dealing with men and affairs, in constructive and social relations with the world, that eminently qualified him for any high place which the future might bestow.

Only his prospects troubled him. He had reached the end of his opportunities in department work. Great things were in the air and he knew it. It was a day of big beginnings, and his "listening ear" had caught the sound of industrial construction ahead, mightier than anything heretofore dreamed. Fifteen years of the national banking system had stabilized American finances. Railroads had gridironed the East and steel arms were already paralleling the trail blazed by the Union Pacific across the western mountains. Small forges like the old Speedwell Iron Works had been merged into organizations with great mills of limitless production, presently to own their own mines, steamships and even railways—iron worlds, complete in themselves. The Atlantic cable, which twenty years before had whispered a brief greeting under the ocean, then for eight years had lapsed into silence, was now only one of many that brought the hemispheres face to face. Great things were in the air, greater than any thus far developed. He had caught the sound of them—he must have part in them. Once to Frank Riblett he said:

"Frank, I am not going to stay in the postal service. I shall keep an eye open for something there is more to than anything in a government department."

When Riblett asked him what he was considering, he replied:

"Oh, I don't exactly know. I have been thinking of getting a foothold in one of the big freight transportation lines."

And Riblett in his notes adds:

Vail's views were far beyond the present. He was building for an altogether different, though as yet undefined, future.

Chapter XVIII: The World Hears a New Voice

MEANTIME, there had occurred one of the greatest events in the history of the world —the discovery of a device for transmitting speech by a magnetic wire.

The early history of the telephone is the story of three great moments—three dramatic days. It has been told many times, and need only be briefly outlined here. On the afternoon of June 2, 1875, in the electrical workshop of Charles Williams, at 109 Court Street, Boston, two young men were experimenting with a rude contrivance which at least one of them believed would prove that a magnetic current could be made to carry sound over a wire. This young man was Dr. Alexander Graham Bell, a professor of acoustics, a specialist in defective speech, and a student of electricity. He was poor and earned his living as a teacher of deaf mutes. One of his patients, a little boy of five, lived in Salem, sixteen miles out of Boston, and his father, Thomas Sanders, gave Professor Bell, besides his modest charge for tuition, board in the Sanders home, with permission to establish a workshop in the cellar, where he tinkered away at all hours of the night. The other young man was Thomas A. Watson, employed in Williams's workshop.

Bell had begun his invention only with the idea of perfecting a "harmonic telegraph," a machine which would transmit in the form of musical sounds several

messages over one wire. He had carried his crude models to Williams, by whom they had been turned over to Watson, who presently had become almost as enthusiastic as Bell himself. He was even stirred by Bell's wild notion that if a wire could be made to carry varying musical sounds he believed it could be made to carry the human voice. Day after day these two visionaries had experimented without result, and now on this particular 2d of June, in the hot garret of Williams's shop, Watson was plucking away at a piece of clock spring adjusted to give forth a musical sound, while Bell in the next room had his ear down to a similar reed, listening with all his might to catch the slightest answering vibration.

Suddenly the listener sat straight up, every nerve in him alive and thrilling. From the bit of spring had come a scarcely perceptible but unmistakable musical note. Watson in his end of the attic heard a shout; then the door flew open and Bell rushed in.

"What did you do then?" he said. "Don't change anything! Let me see!"

Watson showed him and Bell went back to listen. Again came the feeble note—the inarticulate treble of the infant voice that would one day speak every tongue in every corner of the globe!

The second great moment in the telephone story followed a little more than nine months later, March 10, 1876. Watson and Bell had worked madly to make the newcomer utter something intelligible, but they had only succeeded in obtaining a gasp or two and some curious noises which they tried to imagine

were like words. The attic rooms being too close together for speech tests, they had carried a wire down two flights of stairs to the third floor of the main shop. But it was very noisy there and Bell hired two rooms on the top floor of an inexpensive boarding house at No. 5 Exeter Place, and here again Watson set up the wires, the first telephone line ever installed in a private house. For a time nothing important happened. It required a strong imagination to make words out of the sounds that traveled back and forth between the rooms. Then, all at once, on that eventful March 10th, Thomas Watson, listening at his end of the wire, heard Doctor Bell's voice quite distinctly say:

"Mr. Watson, please come here. I want you."

Watson did not stand on the order of his going; he flew down the hall to the other room.

"I can hear you!" he shouted. "I could hear the words!"

The third great moment came three months later, on another June day, this time at the Centennial Exposition in Philadelphia. One of Doctor Bell's speech patients, a young woman named Mabel Hubbard, had become his fiancée. Her father, Gardiner G. Hubbard, of Boston—a lawyer and member of Congress, a man of considerable distinction though of small means—had joined with Thomas Sanders of Salem in financing Bell in his experiments. Hubbard was one of the Centennial Commissioners, and had obtained for Bell permission to set up and exhibit the new invention in the Department of Education.

Watson had constructed two carefully-made instruments for this exhibition, but apparently few of the visitors cared to try them. It was all too unheard of, and there was so much else to see. Besides, not many were anxious to make a show of themselves by talking publicly into what looked like a little circular can. When the day arrived on which the judges for that department were to make their tour of inspection, Hubbard had to use all his persuasions to get them even to promise to spend a few minutes examining Bell's telephone.

It was an intensely hot day and by the time the judges got to Bell's table it was seven o'clock, and they were worn out. They had seen plenty of wonders —Elisha Gray's musical telegraph among them— this was just another and lesser marvel. One of them picked up the curiosity and put it down again; another asked if it would talk to China.

But then came the great moment. His Majesty Dom Pedro, Emperor of Brazil, with the Empress and their suite, entered the room, and Dom Pedro, observing Bell, came forward with extended hands, exclaiming:

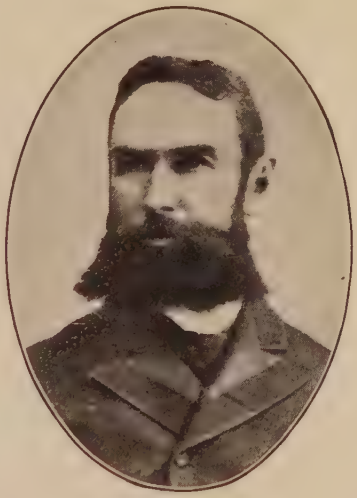
"Professor Bell, I am delighted to see you!"

He had once visited Bell's class of deaf mutes at the Boston University, a fact which Bell for the moment had forgotten. The judges crowded around now; to be noticed in that way by the Emperor of Brazil was something worth while. Others gathered, among them scientists and newspaper men, and all began to profess a sudden interest in Doctor Bell's queer invention. Then Dom Pedro proposed to try it, and while

ALEXANDER GRAHAM BELL

THOMAS A. WATSON

GARDINER G. HUBBARD



THOMAS SANDERS

THE FOUR TELEPHONE PIONEERS

Bell went to the instrument at the distant end of the room the Emperor, surrounded by no less than fifty interested observers, took up the receiver and placed it to his ear. Everybody regarded him curiously to see what would happen. Suddenly he threw back his head with a startled look.

"My God!" he said, "it talks!"

There was a sensation; plenty now were willing to try Doctor Bell's invention. Sir William Thomson (Lord Kelvin), engineer of the first Atlantic cable, was with Dom Pedro, and took a turn at the wire.

"It does speak," he declared. "It is the most wonderful thing I have seen in America."

A part of the group remained until ten that night, talking and listening. The papers next morning were full of the story; Bell's telephone exhibit was transferred to the judges' pavilion, where it became the feature of the exposition.

Few as yet realized its possibilities. It was just a toy—the most wonderful toy in the world, but of what practical use? Gardiner Hubbard, however, already an old man, but always a visionary and a castle builder, was dreaming golden dreams.

Chapter XIX: Early Telephone Finances

IT is unlikely that anybody at this time, even Bell himself, realized the fullness of what had happened—that he had produced the greatest single invention ever born into the world. His discovery was not in any sense an improvement—a new and better way of doing something that had been done before—it was doing an *entirely new thing;* in effect, it was adding a sixth sense to the human equipment; potentially it was bringing within hearing distance every human being in the world.

To make it a commercial investment was another story. One might suppose that after the publicity given it by the Centennial success, the matter of financing would be easy enough. Nothing could be farther from the facts. To the business world the telephone was just a toy, an interesting and wonderful toy, but of no real practical use, certainly not a thing in which to invest capital, even when it had been demonstrated that the new invention would actually talk between Boston and Cambridge, and this fact, with a full report of the conversation held between Watson at one end and Bell at the other, was published in the *Morning Advertiser.*[1] Bankers and men of private means still regarded it as a poor risk, and smiled or made some facetious remark when invited

[1]October 19, 1876. The wire used was a private telegraph line from the Walworth Manufacturing Company in Boston to their Cambridge factory.

to invest in the stock. Bell and his friends formed an association of which Hubbard was president, Sanders treasurer, Bell electrician, and Watson superintendent. They called themselves the Bell Telephone Company, with offices in Williams's electrical shop at 109 Court Street, on the third floor, of which they occupied only a portion, the rest being used by Williams himself. Its capital was only such as its treasurer, Sanders, could personally provide, and his assets were far from ample, as we shall presently see.

The telephone did not lack of publicity. Bell and Watson gave a series of lectures in and about Boston —that is to say, Bell lectured, and Watson from a greater or less distance talked and sang over the wire, managing to bellow loud enough to make the audience hear. These lectures were very popular, and it seems strange to-day that capitalists did not awake to the possibilities of this great new adjunct to human speech. Perhaps the fact that the newspapers refused to take it seriously and were inclined to make jokes about it was somewhat to blame. There came inquiries for telephones, but the call was timid and hesitating—a still, small voice, hardly perceptible. Watson was hard at work on the instruments, improving and experimenting, and in April, 1877, set up a wire from the Williams workshop to Williams's home in Somerville, the first established telephone line in the world.

The Boston papers recorded this fact with headlines, and then in May—a full fourteen months after the telephone had uttered its first distinct word—a stranger from Charlestown, across the river, came into the Bell office, said his name was Emery, and rather diffidently

proposed to lease a couple of telephones at the current rate of ten dollars each per year. He paid for them, too, in money—the company's first cash return.

This looked like a beginning, and a circular was immediately prepared for public distribution, inviting other patronage. About the same time a young man named Edwin T. Holmes, whose father, Edwin Holmes, had established an electrical burglar-alarm business in Boston and New York, one day dropped into Williams's store and noticing Williams shouting into what looked like a curious little box made some inquiries. He got plenty of information, and a few days later suggested to Hubbard that if he would lend him "two or three of those things" he would show them to Boston. He explained that in connection with his burglar-alarm business he had individual wires running to various banks and other establishments, and that he could put up telephones in these places, attach them to his wires, and arrange switches in his office to establish proper connections. Hubbard eagerly entered into the plan and lent Holmes three telephones—Nos. 6, 7, and 8, which were soon set up at 342 Washington Street, Holmes's headquarters, and working very well. A few days later two other telephones were completed and delivered to Holmes, who by this time had become enthusiastic as to business prospects. He proposed to Hubbard that they enter into an agreement to cover the Boston district, and a contract was drawn by which he was to have that territory, with telephones at a yearly rental of ten dollars each, for a period of two years. Holmes was an active business person, and in a comparatively brief time had something more

than sixty subscribers. He published a printed list of them, the first telephone directory ever issued.[1] His subscribers now increased very rapidly, and Watson was kept busy in the shop, while Hubbard, who now saw fortunes presently to be rolling in, engaged an office assistant, Robert W. Devonshire, to manage the books and business details.

All this was very fine, but it was far from profitable. The telephones cost a great deal of money, and experimentation cost even more. Hubbard, like the genial optimist that he was, ignored anything so trifling as figures and reveled in prospective millions.

Thomas Sanders, the treasurer, did not revel. He was a leather dealer, and he saw his entire capital, about thirty-five thousand dollars, going into wire and wages and rent, and a variety of other things that brought any amount of publicity, but not a cent in dividends. At the end of sixteen months from the date of Bell's patent [2] about eight hundred telephones were in use, and by the end of the year (1877) there were a good many more; but it had cost heavily to make them, and it was Sanders who had paid the bill. The rental returns were very meager, as compared with the cost, and Williams had no capital that would warrant extending credit. To none but Hubbard did prospects seem entirely bright.

As if their situation was not already hard enough, fresh trouble now presented itself in the form of legal

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[1] The honor of the first exchange established exclusively for telephone use is claimed by New Haven.

[2] Bell's patent bore date of March 7, 1876. Its number was 174465, "the most valuable single patent ever issued in any country."

warfare; a great corporation descended upon them and prepared to deprive them of their only real asset. Bell, a year earlier, had offered to sell out his patent to the Western Union for a hundred thousand dollars. One shudders to think of his escape; but he took no risk. The Western Union did not want it—not then. When, presently, they realized that it might be of some use to them, they decided to take it, and being a great corporation with a capital of many millions it did not occur to them that a small matter like Bell's patent, "a scrap of paper," was going to stand in the way, especially when the Bell Company was quite without the financial sinews of war. They engaged three well-known inventors—Edison, Elisha Gray, and A. E. Dolbear, and through a subsidiary, the Gold and Stock Company, organized the American Speaking Telephone Company, brazenly announcing that it had the only original telephone and was ready to supply all comers. The fact that all three of its inventors, Edison, Gray, and Dolbear, had each and severally fully acknowledged Bell's rights apparently was little regarded, especially as Gray and Dolbear were now quite willing to repudiate such acknowledgments and assert prior claims. The giant expected to crush the pigmy with a blow.[1]

The first result was quite unexpected; the action of the Western Union served as substantial advertising for the Bell Company. That the great Western Union considered Alexander Bell's "talking toy" worth

[1] It should be borne in mind that the Western Union Telegraph Company of that day was entirely different in policy, personnel and management from the present company of the same name.

claiming had the effect of awakening the general public to its value. The Williams shop could not make telephones fast enough to supply the demand, and what was equally important, alas! Sanders could not get money fast enough to pay for them. The financial situation and the impending legal troubles weighed him down.

It did not disturb Hubbard. He was in Washington, with a pair of telephones which he exhibited at every opportunity, talking futures of the most extravagant and golden sort. When Sanders wrote to him, as he did time and again, urging him to raise capital, setting forth their desperate circumstances and his own imminent bankruptcy, Hubbard replied serenely that he couldn't see that anything was wrong —that they would all be rich presently, and suggested that Sanders sell all he had and give it to the poor— that is, to the Bell Company—and cease his vain imaginings. Any number of letters exchanged by Hubbard and Sanders exist, and a few extracts and condensations from those of the early part of 1878 may be admitted here. On January 28th Sanders wrote:

I think the bank was not unreasonable. As Bank officers they felt hardly justified in taking any patent as security for money placed in their hands. . . . They do not look on the Telephone paper in its present stage as strengthening my credit. . . . They know absolutely nothing about the Telephone except what I have told them.

I have now supplied Williams with $12,000 and he still hungers. If you would only do the same we are out of everybody's hands. I have stretched my credit to its utmost to do this, but still I can do it, if it stops there.

In an earlier letter Sanders had proposed a plan—something in the nature of a stock issue—for securing immediate funds, in the sum of fifty thousand dollars, or such a matter. He referred to this now, and added:

I am afraid this does not have enough weight with you, as "a bird in the hand is worth two in the bush" does not seem to be one of your maxims:—provided the indefinite future is bright the present seems to be of little account to you. You have a certain blissful disregard of money, an enviable trait to possess, but scarcely a desirable one in a business partner, therefore I feel justified in keeping you reminded of it, that you may realize the importance of securing solid aid at once, allowing the future to take care of itself.

There was a good deal more of this, to all of which Hubbard calmly replied that thus far the lack of money had apparently been no disadvantage to the company, and as to the proposed fifty thousand he could not see what they were going to do with all that money, even if they had it.

A month later, February 22, 1878, Sanders wrote his belief that the Western Union had determined to crush them by fair means or foul. He continued:

How on earth can we make our position better by fighting when we have nothing to fight with? . . . The W. U. has frightened everyone connected with us, directly or indirectly. My business has suffered, that is, my notes have been thrust onto the market at a high rate [of discount] from the feeling that I am largely interested in a shaky concern, and it will require all the money advanced to the Bell Tel. Co. to take care of the business to which it belongs. Absolute bankruptcy of the whole concern must result if we do not procure money from some source. . . . Williams calls daily for thousands and in addition to that we have to pay lawyers. Where will the money come from? But not to borrow trouble for the future, with what shall I pay Williams and myself to-day? I must stop the manufacture of telephones if some arrangement is not made by which we can pay for them.

Even this did not disturb Hubbard, who in his reply made no reference to the Western Union situation, and declared that the Bell Company, with ten thousand telephones on hand and a demand for them daily increasing, was by no means a shaky concern. The fact that the telephones had to be paid for, and that the income from their rentals provided a very gradual return, did not alarm him. Sanders, he said, had certainly done much in the matter of raising funds, but something must be wrong with his policy. He went on to say:

> No doubt you have done the best that you could, but I do not think you fitted by your education and training for the work required.

He closed:

> We have already borne the burden and heat of the day, and when daylight is so near at hand, do not sacrifice all.

At which we may believe Sanders tore his hair, though less because of the reflection on his abilities than because he knew "daylight" to be still far, far distant, while his needs—his own and the company's —were immediately at hand. His reply to Hubbard has not been preserved, but must have been measurably convincing, for Hubbard in his next agreed to the sale of such stock as was "necessary to raise the amount of money we now need, say twenty-five thousand dollars," following with the advice already mentioned, to wit: "A better plan would be for you to close out your business, put the proceeds into the telephone, and make it your life work." Golden

advice, but Sanders was hardly in a position, as yet, to realize it.

It was not that Sanders failed to appreciate Hubbard—his large conceptions, his gift for promotion and organization, his ability to command public attention. To Bell, a little later in the year, he wrote:

> If Mr. Hubbard had been employed by a company able to pay its bills, to do the work he has done for this company, he would have richly earned $25,000, and I should, if I had been in possession of the patent and enough money to run it, have considered myself fortunate in securing the past services of Mr. H. in introducing it, for that sum.

It was only that anything so material as practical ways and means did not interest Hubbard, while the present situation earnestly demanded a consideration of these sordid things. Hubbard was a sovereign who distributed principalities with a wave of the hand. Holmes had received Boston as guerdon for establishing the first exchange; to H. H. Eldred was given Chicago; Philadelphia went to T. E. Cornish; New York to some young men by the name of H. L. Roosevelt and C. A. Cheever. None of these had demonstrated that they were qualified to administer these rich domains; the fact that they had thought them worth asking for was so gratifying to Hubbard that he bestowed them without question. Besides, they would be wanting millions of telephones directly, the annual rentals of which would be a fortune so vast that Sanders would have to build warehouse vaults to contain it.

Chapter XX: The Telephone Company Acquires a Manager

THE affairs of the Bell Company were about at this stage—certainly they had not improved—when, some three months later, Theodore Newton Vail became a part of telephone history.

He was already familiar with the telephone and its possibilities, having had the best opportunity to acquire his knowledge at first hand. He knew Gardiner Hubbard intimately, for Hubbard was a member of a Congressional Postal Committee which had made a tour of inspection, with Vail officially in charge. Hubbard carried his pair of telephones, of course, and experiments with them were always going on. It was just the sort of thing to appeal to Theodore Vail. His former interest in patents that would revolutionize the world dwindled into insignificance as he contemplated the possibilities of this one. Hubbard's wildest dreams could not equal his own. Telegraphy, the Vail tradition, was to be a thousand times outdone. He pledged himself to take all of the stock that he could raise money to pay for.

The inspection committee went as far west as California. Everywhere Hubbard talked telephone, and at every opportunity displayed and demonstrated the new invention. On the return to Washington he had a pair of instruments sent down from Boston for Vail, and these were presently installed in the house on M Street, later to be carried on a summer trip to

Waterloo, where service was established between the house and the barn. The telephone was then a single affair, with but one opening for speaking and listening, and there was no signaling device. One knocked lightly on it when he wished to attract attention at the other end. Vail with his inventive mind and passion for improvements saw that this would presently be remedied, and that the machine, perfected, would in fact revolutionize the world of speech.

Returning to Washington, he began moving heaven and earth to raise funds. He borrowed as he had never borrowed before, pledging whatever securities creditors were willing to take, urging his friends to follow his example.

Not many did. Most of them, with the attitude usual at that time toward the new invention, shook their heads good-naturedly and declined to waste their hard earnings in that particular way. They remembered a number of things that Vail had promised would make their fortunes, and had decided to give up chasing rainbows for illusive pots of gold. One must draw the line somewhere and almost to a man they drew it at Bell's new talking toy. Vail begged and pleaded—the stock could be had so cheap—as low as thirty dollars a share—some day it would be worth ten times as much, maybe more—they were throwing away the chance of a lifetime. But it was no use; if they were throwing it away, they said, they must remain poor on those terms.

Very likely Gardiner Hubbard's exuberant enthusiasm had something to do with their conclusions. They knew Hubbard, who all the years had been a

dealer in dreams that had somehow failed to come true.

Hubbard, whose admiration for Vail was very great, had begun almost at once to discuss with him the possibility of taking a position with the Bell Company. Nothing could have been more to Theodore Vail's mind; he hesitated only because he could not conceal from himself the fact that he must have a reasonably certain monthly income with which to provide for the little family on M Street. He had some knowledge of the Bell Company's affairs, and the prospect of such a sum from that source continued doubtful. Vail admired Hubbard—his serene and radiant confidence that all would be well. They were kindred spirits, with the difference that Vail, with all his optimism, had a conception of practical constructive methods to make his dreams come true. He promised Hubbard that when he was ready to give up the postal service he would accept a position with the Bell Company. Hubbard wrote to his associates in Boston that he was negotiating with the General Superintendent of the Railway Mail Service, Theodore N. Vail, to take charge of their business affairs; he added that Vail was the greatest organizer in the country—a statement which they probably took with several grains of salt, but which, like so many other of Hubbard's rosy statements, would turn out demonstrably true.

As the months passed and the demand for telephones increased, Hubbard painted the prospects brighter and brighter, and Vail was daily more tempted to burn his bridges and cast his lot with the Bell forces, for

better or worse. When the Western Union fight developed he was tempted still more. The injustice of the attack on the feeble corporation aroused him. He was always for the under dog, and his lawyer instinct and training made him love a legal fray. It may be that even then he saw vast resulting benefits which, under proper conditions of settlement, might accrue. He was always for taking the enemy into camp. He had little fear for the Bell patents—the great attacking corporation might be converted into a powerful ally and friend.

It was rather a curious circumstance that brought him at last to the point of decision—nothing less, in fact, than a discussion in Congress during an entire day's session as to his five-dollar daily allowance in addition to his salary—the propriety of its payment under the existing law.

It was not charged that he was not fully worth the sum received, perhaps even more; but the fact that distinguished Senators should wrangle for a whole day over this petty matter was discouraging; it made him realize the futility of any hope for advancement in any position where politics were involved.

One incident of the day's disheartening session was consoling; also amusing. A few weeks earlier Senator Beck of Kentucky had called on Superintendent Vail to protest against mail for Texas being routed by Pittsburgh and Memphis, instead of by way of Louisville. Vail had explained to him that the Memphis route was shorter, quicker, also less expensive, and declined to make any change. Beck was a blustering old Scotchman who had already carried his protest

to the Postmaster General without result. He now became quite vehement and went away considerably excited. Imagine, then, Vail's surprise when, during the long discussion as to his allowance, Beck of Kentucky was his chief champion. Closing a speech of considerable length, Beck said:

"I never saw Mr. Vail, I believe, until within the last year. I have had one or two conversations with him on business transactions, and I am satisfied that he is certainly a man who ought to have a fair salary, and that the government is quite fortunate in having a man of his ability and general information at the head of this department. I would have no hesitation, as the Senator from Virginia said, in giving him a salary much larger rather than lose him."

Truly the Scotch character has not been overrated for honesty and strict justice. Vail's allowance was not reduced nor the payment of it in any way changed. But a day or two later, meeting Hubbard, he said:

"I am ready to get out of the service; I am looking for a job."

"You don't need to look any farther," said Hubbard. "I am going to Boston to-night and will bring down the others to talk it over."

Hubbard went, and returned with Sanders and Watson and George L. Bradley, a relative of Sanders, who had recently joined in financing the New England Telephone Company (the first subsidiary organization) and had acquired, or was about to acquire, stock in the Bell.

Watson at this time bore the title of superintendent, and there seemed to be a delicacy among the others

about putting anyone over him. Watson himself had no such feelings in the matter. As for Vail, he said he didn't care what he was called so long as he had a job where there was a chance to do something and where his work would count. The delegation assured him that it would be that kind of a job, and it was agreed that his title was to be "General Manager" of the company. This must have been in May, 1878, for on June 2d Hubbard's secretary, writing to Sanders from Washington, said:

> Your last letter was entirely satisfactory to Mr. Vail and he has finally and fully determined to cast his lot with you. He goes to New York with Mr. Hubbard on Tuesday night. I am sure you will like Mr. Vail, and his manner of doing business.

In a letter to Vail at this time, Hubbard wrote:

> We rely upon your executive ability, your fidelity, and unremitting zeal.

To which Vail replied:

> My faith in the success of the enterprise is such, that I am willing to trust to it, and I have confidence that we shall establish the harmony and co-operation that is essential to the success of an enterprise of this kind.

By the terms of his contract he was to have thirty-five hundred dollars for the first year and five thousand for the second—that was the promise; its fulfillment was another matter, but his faith was strong. Once in after years he said, jokingly, that he had been willing to leave a government job with a small salary for a telephone job with no salary.

Chapter XXI: A Day of Great Beginnings

THE new manager gave immediate notice to the Postal Department that he was going to resign, and was asked to keep his connection during the remainder of the year. It was decided that for the time being his headquarters should be established in New York, where he could still keep a hand on the mail service, and upon telephone affairs as well. The announcement of his tendered resignation created quite a stir in Washington; scarcely one of his friends but believed that he was giving up a career for a rash adventure. "Uncle Joe" Cannon, then a young member of Congress, was quite confounded by the news

"Vail resigned his place!" he exclaimed when they told him. "What for?"

"Why, he is going into that thing invented by Bell—the telephone that talks over a wire. He has invested some money in it, and is going to make it his business."

"Well," said Cannon, "that's too bad. I always liked Vail. Hubbard tried to sell *me* some of that stock. I'm sorry he got hold of a nice fellow like Vail."

Cannon was not the only one in Washington who expressed regret. First Assistant Postmaster General Powell wrote with a good deal of warmth:

I understand you intend resigning your present position for the purpose of entering upon the duties of Supt. or President of a Company known as the "Telephone Co." If there is any truth

in the rumor my only wish is that you may have—before the acceptance of your resignation by the P. M. Gen'l.—a telephone tube fastened to your ear and another connecting at the top of your head with a wire running perpendicular or horizontal, and while in this condition be compelled to listen to the sweet by-and-bye's of every yelping canine and the solos of all the tom cats in the State of N. Y. Telephone! Well, it may be useful as well ornamental, but listen to the prophecy of an old fool to a friend. One or two years hence there will be more Telephone companies in existence than there are sewing machine companies today. . . . For T. N. V. to accept the superintendency of a Yankee notion in preference to the position he now holds is certainly laughable. I can scarce believe that a man of your sound judgment, one who holds an honorable and far more responsible position than any man under the P. M. Genl., with honor and respect attached to the same, should throw it up for a d—d old Yankee notion (a piece of wire with two Texan steer horns attached to the ends, with an arrangement to make the concern blate like a calf) called a telephone! . . . I feel confident, if you *do* make the change, that in less than one year you will agree with me in saying you made a mistake. As regards the difference in compensation for services that is a question of only a few months, and no man in the Dept. is in a better position to regulate that than yourself. You have abundance of friends and when their assistance is needed you have only to let it be known, and what more can you ask.

In conclusion permit me to enter my protest against your resignation, with a firm belief that if you stick with the R. M. S. you will not regret your refusal to enter into the d—d old telephone horn business.

There were plenty of such letters, more or less vigorous. A congressman wrote:

Can't you wait and see if Congress will not fix your salary? Don't rob the public of an invaluable servant just because we tried to cheat and starve you.

The opinion prevailed that it was solely because of a promised increase of pay that he was going, and those who had the good of the Postal Department at heart knew what his going was likely to mean. His two

and a half years as General Superintendent had established the Railway Mail Service in a position of greater usefulness than it had ever before occupied. Gen. James E. Stuart once said to the writer:

"With the possible exception of George S. Bangs, Theodore Vail did more for the Railway Mail Service than any man ever in it; and Bangs's greatest service was in comprehending and promoting Vail."

In accepting his resignation Postmaster General Key wrote:

> The ability, energy and skill with which you have conducted your branch of the postal service have in my opinion contributed very largely to bringing that service to its present high state of efficiency, and entitled you not only to a high rank among those who have built up and improved our postal system, but also to the gratitude and approbation of the country.

Theodore Vail was thirty-three years old, at his physical and mental best, and fairly surging with energy and enthusiasm. His new work would furnish sufficient outlet for any surplus vitality.

The more or less constant warfare of the Mail Service had been only in the nature of preparatory exercise for the campaign he was now about to enter; *that* had been the reorganization of forces already in the field. This was to be the enlistment and equipment of an army for the conquest of a new world. From a brief diary begun at this time we get a few stray hints of the preliminaries. June 27th he wrote:

> Left for New York 9.30 P. M. Very busy day—probably last active day with R. M. Service Wash. D. C.
>
> June 28. In New York. Meeting of corporators of Tel. Co. of

N. Y. at Lockwood's.[1] All present, contract discussed. Hubbard, Sanders and myself dined at the Gilsey.

June 29. New York all day—Mem. for settlement drawn up—Lockwood's office. Meeting of Bell Tel. Co. of N. Y. adjourned to Tuesday night.

June 30. Went to Menlo Park, saw Edison—He in very clear language said Bell was the inventor of the magneto telephone. Had a charming day. Phillips and Hubbard along. Gave Phillips the agency at Dayton.

His work was not supposed to begin until July 1st, but in the last three days of June he had got a new corporation started—the Bell Telephone Company of New York—he had picked a man for an important Ohio agency, and he had established friendly relations with one of the Western Union's captains of invention, Edison of Menlo Park. It was highly characteristic of him to call on Edison. He was willing to have lawsuits, but he refused to have enemies.

On the next day he records that he has been all day at telephone business and that in the evening Emma (Mrs. Vail) has started west. He adds in a separate line, "Very warm." We get a picture of an active day, and we may be assured that it *was* very warm, if he thought the matter worth noting, for the heat never seemed to trouble him. Next day he appointed an agent for another town; on July 3d completed the New York contract, and for the national holiday went to Newport with some friends—the record of that day being covered in two words, "Splendid time."

Refreshed, he came back, plunged into organization, and on the evening of the 6th wrote:

Started for Chicago on 7.30 train. Jameson and Stuart along.

[1] Luke A. Lockwood, New York attorney for the Bell Company, 59-61 Liberty Street.

Hubbard's appointees in Chicago and New York had not made the best of their golden opportunities. Roosevelt and Cheever in New York had really done nothing at all, while Eldred in Chicago had made but poor headway. Hence, the reassignment of the New York territory to Vail and the need of reconstruction in Chicago. In the latter city Vail now proposed to make telephone fortunes for his old postal associates "Jim" Stuart, Maurice McGrath, C. S. Squiers and the rest, and no time must be lost in getting things started. Six days in Chicago—"company formed and contract signed"—then back to New York, where he found his own company there about to break up, as the result of a letter from Hubbard—contents not stated, but evidently not fatal, for the entry of that day adds "Arranged things satisfactory."

Next day "to Washington," and so the record ends. In a brief fortnight he had cut out work that in the years ahead would require a vast army and millions of capital to keep it going.

The army and capital were small enough in that day of his beginnings. The Bell Telephone headquarters at 66 and 68 Reade Street was about the barest spot in New York. Fuller of Washington remembers being there just at this time—it was probably during those days at the end of June—and that one day on the street he happened to meet Vail, who said, "Fuller, I want to show you something." He led Fuller to a doorway and asked him to go upstairs and see what he found there. Fuller climbed the long flight and found himself in a big empty loft containing a square box of considerable size, a small roll-

top desk at which a young lady was sitting, and a stool. There was literally nothing else in the room. Fuller noticed that the top of the box had been removed, revealing a number of instruments of a sort unfamiliar to him. He descended the stairs to where Vail was waiting. The latter asked:

"Well, what do you think of it?"

Fuller didn't think anything, and said so.

"Fuller, that is the beginning of a great telephone system, and you want to be in on it. I want you to take five hundred dollars' worth of stock."

Fuller said:

"Why, Vail, I haven't got five hundred dollars in the world."

"Well, put in two or three hundred—whatever you can raise. I'll make some money for you."

But Fuller was a prudent man. In spite of Vail's overflowing enthusiasm he remained cold. That afternoon on his mail route to Syracuse he told the story to the other boys in the car. They were all highly amused.

There was more than one desk presently in the Reade Street loft. Robert W. Devonshire came over from Boston as general assistant, and Hubbard made his New York headquarters there. Watson also appears to have been in New York from time to time. The office of the Bell Telephone Company gradually became a busy place.

We return here for a moment to the early story of the Bell Telephone Company of New York City. Vail had begun the formation of this company while still in Washington. Roosevelt and Cheever having done nothing but fit up handsome offices, Hubbard

had promised him the New York franchise as an added inducement to become manager of Bell affairs. Vail realizing that if any telephone franchise was valuable it was that of New York City, assembled his friends, and a company was formed. Thomas J. Brady, then Second Assistant Postmaster General, subscribed for three hundred shares. Edwin Holmes of the burglar-alarm business also took three hundred. Vail himself took one hundred and fifty, and A. S. Dodd, of Dodd's Express, New York, subscribed for a like amount. Dodd, who seems to have had a good deal to do with the preliminaries, had some misgivings as to the Western Union situation. Vail reassured him with the news that the Western Electric Company of Chicago, who had been employed to manufacture the Western Union instruments, had offered to pay royalty to the Bell Company—a fact which he held to be conclusive that they recognized the validity of the Bell patents. Enos M. Barton, secretary of the Western Electric, had, in fact, proposed by letter (June 6, 1878) to pay a royalty of three dollars each on telephones other than the Bell. Certainly this was calculated to stiffen the backbone of Dodd and his associates, who now apparently came in with confidence. In all, 1,050 shares were taken, no cash capital paid in, it being agreed that assessments of $2.50 per share should be made, as needed for construction. Edwin Holmes was made president of the new company; A. S. Dodd was chosen secretary; W. H. Woolverton, an associate of Dodd's in the express business, was appointed treasurer, and W. C. Humstone, superintendent.

Under the terms of its contract with the parent company of Boston, the New York Company was allotted as territory the city of New York, "and the exclusive right to use and rent telephones at and between all places within the district of thirty-three miles of the city of New York (not including any part of the state of Connecticut), and the whole of Monmouth County, New Jersey, and the whole of Long Island." It was to pay to the Bell Company an annual rental of ten dollars each for all telephones, with a special five-dollar rate where telephones were required for private houses. The stock of the New York Company was to be divided into twelve hundred preferred and eight hundred common shares, of a paid-up par value of fifty dollars each—the common shares (being forty per cent of the whole) to go to the parent Bell Company as payment for the franchise—that is to say, "the exclusive right and privilege of using and manufacturing and renting telephones in the district herein named and in the manner herein set forth."

Dividends—when declared—were to be at the rate of ten per cent, and the remaining profits, if any, "distributed among the holders of the stock, common and preferred, share and share alike."

It was a long document, and there were a number of provisions for the manufacture and sale of telephones and for other matters of lesser importance. On the whole it was a clear, competent instrument—an example to be followed, with modifications to meet varying requirements in the ten thousand cities and towns between the eastern and western oceans. In

potential wealth it was one of the richest contracts ever drawn. Even a dreamer like Hubbard and a seer like Vail could hardly have foreseen the opulence of the principality embraced in its provisions.

There was no delay, this time, in starting. Offices and the first exchange were promptly established at the headquarters of the Holmes Burglar Alarm, 518 Broadway, and the first New York Telephone Directory, a list of 243 subscribers, was soon issued.

We have taken up here this matter of the New York Company, not only because it was the business that required immediate attention at the moment of Vail's arrival in New York, but also because it fairly represents the general scheme by which it was proposed to extend the telephone industry. The Bell Company had no capital with which to construct a general telephone system. It could hardly construct the telephones themselves to supply orders. Vail and his associates realized that there was just one way to carry out the work. Local companies must be promoted in the towns, the stock to be locally subscribed, a percentage of it to go to the Bell Company for the franchise, with a rental charge for the use of the instruments. It was a big idea—one of the biggest ever conceived; also one of the simplest—at least in theory.

Putting it into operation was another matter. Rarely has there been such a chaos of business affairs as Theodore Vail found when he took hold of those of the Bell Telephone Company. A good deal had been done, but most of it had been done wrong. Energetic men had, in effect, been running around in circles trying to create a mighty industry, with no precedent

to follow, no directing hand, no capital, nothing but a patent right—a Yankee toy—and such funds as had been scraped together by a manufacturer of shoe soles, whose heart was in the right place, but who, as Hubbard had so frankly put it, had not been qualified by "education and training," and certainly not by his gifts, to be a captain of industry.

With bankruptcy an ever-present menace, a lawsuit with a corporation of limitless capital impending, with nothing to go on but backbone, a genius for constructive organization, a serene faith in the future and in himself, Theodore Vail undertook his giant task.

Chapter XXII: Bringing Order Out of Chaos

WITH the New York Company established, the next thing was to bring order out of the Bell affairs—to establish an organization that would have functioning powers and at least a potential capital.

A statement made at the end of May, 1878, showed that outside of New England there were in operation 6,335 telephones, of an average net rental of something less than ten dollars each per year. The New England business was controlled by the company which earlier in the year Sanders and some of his Boston relatives and friends, including George L. Bradley, W. G. Saltonstall and G. Z. Silsby, had organized. It had a paid-in capital of $50,000, and while Sanders's troubles were by no means ended, he could feel that so far as New England was concerned his feet were upon somewhat firmer ground.

It was the vast territory outside of New England that claimed the new manager's efforts. He had begun the preliminaries as soon as he was settled in the Reade Street offices, and on the 20th of July, 1878, the reorganization of the Bell Telephone Company, with a capital of $450,000, was completed.

The officers of the new company were, Gardiner G. Hubbard, president; Thomas Sanders, treasurer; Alexander Graham Bell, electrician; Thomas A. Watson, general superintendent; Theodore N. Vail,

general manager; the last-named to be "under the direction of the executive committee, and the *only salaried officer for the time being.*"

The following notice was sent out to patrons and the public generally:

> The Bell Telephone Company have organized, with a large cash capital, and have removed their executive office to New York.
>
> Theodore N. Vail, for many years the General Superintendent of the Postal Service of the United States, has been appointed General Manager of the Company. The other officers remain as heretofore.

The "large cash capital" was to be raised by obtaining a loan of $25,000 on $100,000 worth of stock—that is to say on one thousand shares—while five hundred more shares were to be sold at fifty dollars per share, thus securing a total of $50,000, if the plan worked out.

As a matter of fact it was the old reliable Sanders who advanced the $25,000, and it was his friend, George L. Bradley, who undertook the disposal of the stock which was to bring in a like amount. Of these five hundred shares—as Sanders wrote Bell, then in Europe—"Williams bought 123 shares because he couldn't help it," and Bradley, after getting rid of seventy-seven shares to his friends, took the remaining three hundred himself, for the reason, as Sanders further declared, that "he saw the ruin of the New England Company in the failure of the Bell." They would all be glad enough to have the stock, by and by, but for the present it represented hardly more than the promise of a hope. The new company was really the first Bell Telephone Company; what had previously been known by that name was no more than an

association of the owners of the Bell patents, with Hubbard in control of the stock. Sanders in one of his letters had complained that they never held any meetings and were in no sense an organized corporation.

They were stoutly organized now. With such capital as they were able to muster, the new manager began a vigorous campaign, not only for business, but against their enemies. About the first thing he did was to send a copy of Bell's patents to Bell agents in different parts of the country, calling upon them to stand by their guns.

We have the only original telephone patents [he wrote], we have organized and introduced the business and we do not propose to have it taken from us by any corporation.

Another document—a brief circular letter—was still more definite:

Referring to recent circulars of the American Speaking Telephone Company, the Management of the Bell Telephone Company state, broadly, that they do not purpose entering into a war of words with those whose business interests are opposed to their own: Nor do they purpose meeting reckless assertions as to the validity of their patents, with a statement of facts which will in due time be placed before the public as evidence in the suits at law now pending against those whom they believe to be infringers of their patents.

The propriety of this course will doubtless suggest itself to any unprejudiced mind.

Professor Alexander Graham Bell has been adjudged the inventor of the speaking telephone by every scientific body that has considered the question; and it is believed that the opinion of the courts will give legal confirmation of this great moral judgment.

Meantime, the Bell Telephone Company will protect its customers, in the use of telephones rented by it, against any proceedings which may be brought against them for infringement, by assuming, upon notice and request of such customers, the defense of such proceedings and all expenses incident thereto.

Not many of their agents could know the financial uncertainties of the new company, and this reassuring word stimulated renewed effort. Here and there somebody weakened, and in one instance the new manager wrote:

> You have too great an idea of the Western Union. If it was all massed in your one city you might well fear it; but it is represented there by one man only, and he has probably as much as he can attend to outside of the telephone. For you to acknowledge that you cannot compete with his influence when you make it your special business, is hardly the thing. There may be a dozen concerns that will all go to the Western Union, but they will not take with them all their friends. I would advise that you go ahead and keep your present advantage. We must organize companies with sufficient vitality to carry on a fight, as it is simply useless to get a company started that will succumb to the first bit of opposition it may encounter.

It was characteristic of him to resolve the enemy into individual units—each a faulty and none too resolute human being; it was a policy he never saw reason to abandon.

Having thus reassured and encouraged existing companies, capable and energetic agents were sent out to establish new ones. In nearly every town it was possible to find some ambitious young man of limited capital who was willing to interest fellow-townsmen in setting up an exchange. Those who put in telephones were often willing to become small stockholders, and thus the interest grew and solidified. Among the agents sent out to canvass the towns was Oscar E. Madden, who had been connected with a sewing-machine company and was familiar with work of a somewhat similar kind. Madden was so suc-

cessful that he was presently assigned to the larger cities. Personally unlike Vail, and not overpopular in the office, he was nevertheless capable, loyal, and of sound business judgment. The new manager came to rely upon him more and more.

Contracts made with local companies, in towns of whatever size, were similar to that made by the New York Company—the Bell Company taking stock for its privileges, thus becoming a partner in the business, deriving also an income from the rental of the telephones. One might suppose that this return would presently be coming in fast enough to relieve the financial strain. Nothing could be farther from the fact. The telephones were costly to make; the two or three dollars advance payment on account of rentals was infinitesimal by comparison. It was quite impossible to get money fast enough to pay Williams, who was obliged to take stock in the company, as we have already seen. Williams further found it necessary to reduce expenses in his household, and Mrs. Williams gave up her domestic to provide, at least in part, for an additional workman. Those were hard, discouraging days.

Manager Vail was not dismayed by the prospect. He worked always as if he had infinite resources of capital as well as courage, and had a permanent company behind him. He laid out his campaign on a large scale and constantly introduced new features—among them a five-year standard contract which required the local companies to build exchanges and confined them to certain areas. There were also contracts which provided for connecting two or more

towns, though for these there was little call. How could the telephone ever be made to work at any distance when often it refused to be heard across the street? Vail, however, never for a moment doubted the realization of the last possibility suggested by Bell's invention, and provided accordingly. In his vision he saw interlinking wires extending from city to city and across the states. He even began securing interstate rights, in a day when there was no wish to deny a privilege the value of which was considered negligible. The plan in his mind was to create a national telephone system in which the Bell Company would be a permanent partner. Perhaps he did not then put into words his later slogan, "One policy, one system, and universal service," but undoubtedly the thought was in his mind.

Theodore Vail and his little force worked early and late and, outwardly at least, results began to show. The popularity of the telephone grew amazingly. Local companies multiplied; the demand for telephones increased beyond the limits of the Bell Company to manufacture, and especially beyond its ability to pay for them. The company was constantly on the verge of bankruptcy through its prosperity.

Not that the installations were working everywhere smoothly—far from it. The telephone was still a comparatively crude affair, conversations through it being often "full of sound and fury, signifying nothing." In most cases the ground was used for the return circuit and it was by no means a satisfactory conductor. The wires themselves, being of iron and poorly insulated, were only a degree better. In the

towns they were generally paralleled by telegraph and other circuits which, through induction, generously gave them a part of the load they were carrying. Distracting noises in great variety provided conversation with a more or less continuous accompaniment of fireworks. A telephone talk of that day often suggested a Fourth of July celebration rather than an interchange of human speech. The transmitter, too, was still primitive—more calculated to "develop the American voice and lungs," as Watson himself wrote later, than to promote conversation. When Edison developed for the Western Union a brand-new one, superior in every way to that in use by Bell, ruin stalked through the offices in Reade Street.

Lessees of Bell telephones clamored with one voice for a transmitter as good as Edison's. This, of course, could not be had in a moment, and the five months that followed were the darkest days in the childhood of the telephone.

How to compete with the Western Union, which had this superior transmitter, a host of agents, a network of wires, forty millions of capital, and a first claim upon all newspapers, hotels, railroads, and rights of way—that was the immediate problem that confronted the new general manager. . . . Several of his captains deserted, and he was compelled to take control of their unprofitable exchanges. There was scarcely a mail that did not bring him some bulletin of discouragement or defeat.[1]

Some of the departments in Washington, Hubbard's stronghold, put in Edison telephones. In Philadelphia, Cornish, the lessee, was forbidden to put up wires and his linemen were more than once arrested. Treasurer Sanders was in the darkest financial depths. To Hubbard he wrote:

How on earth do you expect me to meet a draft of two hundred

[1] From the *History of the Telephone*, by Herbert N. Casson.

and seventy-five dollars without a dollar in the treasury, and with a debt of thirty thousand dollars staring us in the face?

And again, a little later:

Vail's salary is small enough, but as to where it is coming from I am not so clear. Bradley is awfully blue and discouraged. Williams is tormenting me for money and my personal credit will not stand everything. I have advanced the Company two thousand dollars today, and Williams must have three thousand dollars more this month. His pay-day has come and his capital will not carry him another inch. If Bradley throws up his hand, I will unfold to you my last desperate plan.

When all has been said, Sanders was the hero of the company. But, indeed, they were all heroes, and Vail the general that led and heartened the little army during those days of its Valley Forge. At moments their case seemed desperate; Vail one day ordered a small bill of supplies from L. G. Tillotson & Co. of 15 Dey Street, New York. They failed to come and a porter was sent after them. He returned presently with the word that the firm would be glad to send over the articles as soon as they had received the cash for them, something under ten dollars. Curiously, it happens to-day that the big building of the New York Telephone Company stands on the site of Tillotson's store.

Temptation always comes at such times. Watson was offered $10,000 for his stock; Vail was tendered positions with higher and surer salary, by railroad and express companies; Sanders was urged to go back to his leather business, which had all but expired. Still they kept on; never was there a more determined fight.

During this time Bell, the cause of all, had been with his young wife in England. He had gone expecting to promote the telephone industry abroad, but the lack of financial support had killed his enthusiasm. He returned, now, sick and in the last dregs of discouragement. From the Massachusetts General Hospital he wrote:

> Thousands of telephones are in operation in all parts of the country, yet I have not received one cent for my invention. On the contrary, I am largely out of pocket by my researches, as the mere value of the profession that I have sacrificed during my three years' work amounts to twelve thousand dollars.

Bell was the most fortunate man in the world. Fortunate to have friends like Hubbard and Sanders, and an intelligent and devoted collaborator like Watson; fortunate, finally, to have secured a man like Theodore Vail—a master of organization, a general of limitless courage and resources, and, above all, unselfish and utterly honest in his management of the company's affairs. It would have been so easy for Bell, like many another inventor, to have been defrauded of his rights. Yet never for a moment, from those who had his business in hand, was there ever a possibility of such a contingency. They were solidly for Bell and the success of his invention, unwaveringly, from start to finish. Bell was indeed a fortunate inventor, but in this black hour that fact was perhaps the hardest thing for him to realize.

Theodore Vail's calmness during these trying days was a large asset. Devonshire and the others of his force, dismayed at the financial situation, and at the powers in array against them, would look over at him

sitting at his desk, serene, undisturbed, quietly writing, and take courage.

He had been too many years in Washington, with storms brewing and breaking around him, to waste time and nerve tissue now walking the floor. Besides, he was not of that cast. Several months earlier Devonshire, then in Boston, had observed a rather amusing example of his chief's presence of mind. It was on the occasion of the new manager's first visit to the Boston office, earlier in the year. In some recent notes Mr. Devonshire describes him as a young man, dressed in an English walking suit of a gray or Quaker mixture, wearing a tall, light kersey hat.

> After greetings were over he sat down, placing his tall hat on the sill of the window. He was in an awkward position, and moving to a better one knocked his hat out of the window into the open alley two stories below. We did not expect to get it again, or if we did its usefulness would be gone, but when recovered it was found to be uninjured. Its possible loss did not seem to faze Mr. Vail in the slightest.

Devonshire made up his mind that nothing could disturb him. He could even, while writing, steadily carry on an almost continuous conversation—a faculty which deeply impressed those about him.

They noticed, too, that he never seemed to have the least misgivings as to the future. He planned for it, but always as if it were a certainty. He crossed no bridges till he came to them, and then always with a confidence that stimulated and sustained those around him. Once long afterward when he spoke of that time he was asked:

"Didn't you ever get discouraged?"

"If I did," he replied, "I never let anybody know it"; but somehow we feel that he never did.

Sometimes when the office force could muster a remnant of money they went to the theater for relaxation. Gilbert and Sullivan's operas were just beginning, and when matters became too dismal they would attend one of these and forget their trials. On evenings of lesser affluence, and these were frequent, for wages were seldom paid in full, sometimes not at all, they diverted themselves with a walk up Broadway, dropping in at various hotels—the Metropolitan, the Broadway Central, the Fifth Avenue—for modest refreshments. At the last named they often found General Arthur, then not even a presidential possibility. Theodore Vail knew him very well, from the Washington days, and Arthur, hospitable and cordial, frequently became their host.

Chapter XXIII: Taking the Enemy into Camp

THEODORE VAIL'S friends in Chicago—Stuart, McGrath, Squiers, and the rest—were not making a success of their venture. They had raised some capital, but, as had so often happened with Sanders and Hubbard, they had reached the limit of their resources, and were ready to give up their chance of great fortune.

There was no one among them with gifts large enough to meet the situation. The American District Telegraph Company, with Western Union telephones, was a powerful rival. It had unstinted capital, while the poor little Chicago Company was handicapped by poverty at every turn. Its promoters became panic-stricken. Vail was telegraphed for, and arriving on the scene, counseled further exertion. But they were done for and said so. He pointed out that the Bell Company was about to bring action against the Western Union and that the decision was certain to be favorable. They assented weakly; it was evident their faith in that direction was not strong. He begged and pleaded with them not to surrender the fortunes certain to come to them at no distant day.

It was all to no purpose. Those old and dear friends had lost heart and did not hesitate to confess it. They asked him only to take the concession off their hands, paying them the sums expended for wires and franchise—about eight thousand dollars in all.

We need not go into details. Vail wrote to his executive committee in New York, October 2, 1878, outlining a plan for a new company, terms to be similar to those of the New York corporation. He added:

> Although it has been an impossibility to induce parties to take hold, there is no cause for being discouraged; on the other hand there is every reason for encouragement.

He explained that the Western Union and American District Telegraph were circulating all sorts of tales, and would stop at nothing; that in Chicago Edison was considered the inventor of everything, and that Gray was also highly regarded. Nevertheless, the Bell Company had a good foothold and he strongly advised that it keep an absolute control of the Chicago situation. It was important, he said, to pay the bills already incurred, and to show no signs of weakness.

It must have been a fearful strain to provide funds to finance the new Chicago company. Bradley, however, wrote Hubbard strongly favoring the plan:

> Sanders seems to think that nothing can be done that requires money. I think that money can and must be raised to keep this important field to the Bell interest.

And somehow it was raised—Bradley himself may have furnished a good portion of it—and a check for the amount forwarded. Vail made a final effort to rally his old forces of the postal service, but it was no use. The telephone business was not for them.

"Jim," he said to Stuart, "you boys are throwing away a fortune, and I wish I could save it for you."

They wished so, too, but they were even more anxious to have the check. He turned it over to them and they signed the release of their rights, and of a fortune larger, perhaps, than anyone at that time could foresee. Only one of the group is living to-day, Gen. James E. Stuart, division superintendent in the Chicago Post Office. To the writer, not very long ago, he said:

"That was my one chance to become a millionaire; Theodore did his best to make us rich, but we wouldn't have it."

It was at the moment when conditions seemed the most desperate—when Watson was cudgeling his brains day and night on the problem—that Francis Blake, Jr., of Boston informed the Bell Company that he had invented a transmitter as good as Edison's, or better, and agreed to let them have it in exchange for stock in the company. No single piece of news was ever more welcome to a struggling corporation. Blake's transmitter was all that he claimed and was in use by the autumn of 1878. The Bell Company, now on an equality with the Western Union, was equipped to give battle in the field as well as in the courts. In September it began suit against one Dowd of Boston, head of the American Speaking Telephone Company of that city. Suits were also begun in other cities, and in Boston and Cincinnati injunctions were obtained against unauthorized manufacturers to compel them to cease infringement. A general circular reciting these facts was issued from the various Bell offices throughout the country, containing also the important tidings, *in italics*, that the Bell Company would shortly

introduce the "*Microphone Telephone*," by which a much louder sound could be transmitted than through the ordinary telephone; in other words, the Blake transmitter. The circular concluded:

> We would respectfully advise all parties using other Telephones to obtain the written guaranty of responsible parties, as otherwise they may be compelled to pay their rental a second time.
>
> It is not known to us that the Western Union Telegraph Company have ever authorized any party to give such a guaranty.

The Bell Company, through its Boston affiliations, had secured as its attorneys Chauncey Smith and James J. Storrow, men at the head of their profession and with the cause of the struggling company at heart. The detailed progress of the "Dowd case" need not be set down here; the suit lasted for a year, then suddenly came to an end with victory for the Bell forces. George Gifford, chief attorney for the Western Union, after exhaustive investigation reported to his clients that Bell was the original inventor of the telephone, and suggested to them that they withdraw their claims and make the best settlement they could.

The Western Union now offered to leave the local business to the Bell Company and take for themselves the inter-exchange, or toll lines, realizing by this time that these were likely to be worth something. Some of the Bell Company were in favor of accepting this proposition, but Manager Vail opposed such an arrangement. Distance telephoning was his ideal, and he had the fullest faith in its future. A committee of three from each side was appointed to arrive at terms of settlement which both could accept. Months went by without any agreement. No armistice was declared,

meantime, and the fight between local companies continued as bitterly as ever, the Western Union in some localities installing telephones with no charge for service, probably thinking to compel better terms.

The opposing forces finally met in New York, and Theodore Vail put in the better part of a night with them, discussing disputed points, mainly in connection with the toll lines. Around daybreak a basis of settlement was reached which permitted the Western Union to use and sublet telephones under license from the Bell Company on their private wires—a concession of no great importance to the Bell Company. The whole matter was concluded next day, November 10, 1879, on the following terms:

The Western Union agreed that Bell was the inventor of the telephone, that his patents were valid, and that they would retire from the public telephone business.

The Bell Company agreed to buy the telephones and telephone system of the Western Union; to pay it a royalty of 20 per cent of its receipts from telephone rentals or royalties, and to keep out of the telegraph business.

The compact was to remain in force for seventeen years, and it was a triumph of Theodore Vail's policy of taking the enemy into camp. By it a giant competitor and bitter enemy was transformed into a partner and a friend. It also added to the Bell system fifty-six thousand telephones in fifty-five cities, for the Western Union had been busy, and had not wanted means for manufacture.

Chapter XXIV: The Way of Prosperity

WE are at this point somewhat in advance of our main story. By the time of the Western Union settlement the Bell Telephone Company had become the National Bell Telephone Company, with William H. Forbes as president, and a capital stock of $850,000. The Blake transmitter had brought a large increase of business, which, in spite of the existing legal uncertainties, had attracted men of means and position. The new president had both; he was the son of an East India merchant; a son-in-law of Ralph Waldo Emerson; a broad-gauge, upstanding man in every way qualified for leadership.

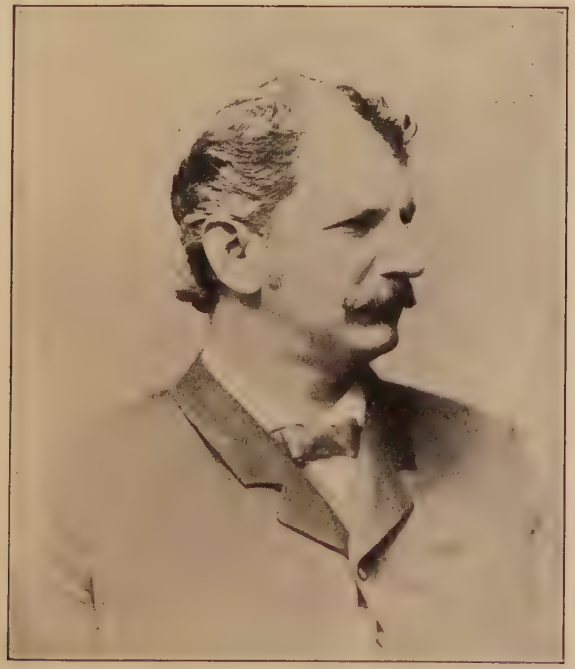
The National Bell Telephone Company was a combination of the New England Company with the Bell Telephone Company. Its articles of association bore date of February 17, 1879, and it was about this time that Vail and his staff found themselves established in Boston, at 95 Milk Street. The dingy Reade Street office in New York had become headquarters for the Edison Speaking Phonograph Company, which had made its appearance in the business world, with Gardiner Hubbard—of course—as president, now visioning, truly enough, limitless fortunes in this new field of speech.

The telephone business was not entirely well of its financial infirmities, but it was highly convalescent.

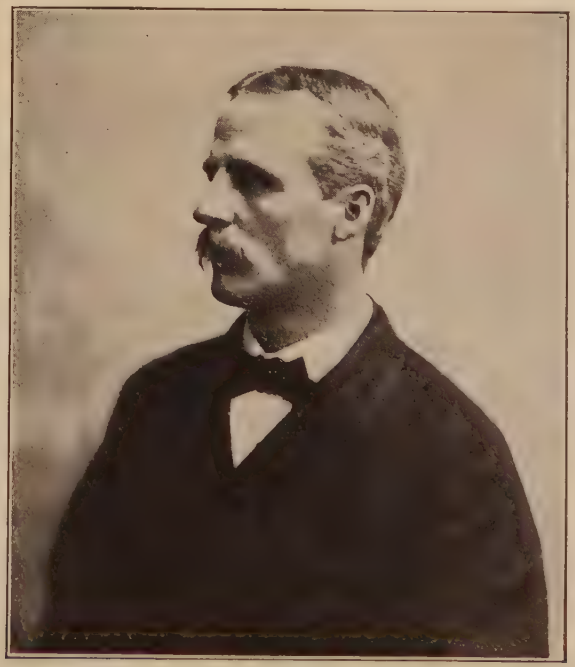
It had added capital for immediate needs, and what was more, it had acquired credit—not unlimited credit, but its stock was accepted as collateral for loans in a reasonable amount. With Forbes at the head of the corporation, Vail as its general manager, and George L. Bradley as treasurer, the business was now in the hands of practical and competent men at every point. Sanders, who had fought so hard and well, was still a director—willing enough, we may believe, to lay down the cares of an office that had so nearly cost him his fortune. Bell still carried the title of electrician, and Watson was now general inspector. Francis Blake was on the board of the new company, and very properly, for he had been its angel.

At this point begins a great period in telephone history. For the first time there was money to work with and men to do the work. Vail brought his chief agent, Oscar E. Madden, into the office and made him superintendent of agencies, an important post. Madden proved invaluable in extending the work, and presently became assistant general manager. They were a strong team, tireless men with never a thought of hours.

The rest of the office caught the infection. It was work without ceasing, days, nights, Sundays and holidays. It was nothing unusual for Vail and the entire force to stay until eight or nine in the evening, and until noon on Sundays and holidays. They were playing for a great stake, and the cards were beginning to come their way. Everybody wanted telephones now—the New England Company before losing its identity had paid a dividend! Telephone



THEODORE N. VAIL ABOUT 1885



WILLIAM H. FORBES ABOUT 1880

apparatus could not be constructed fast enough to supply the demand, and two or three other companies were permitted to make bells and switchboards. There was no busier or more enthusiastic place in America than the National Bell Telephone offices at 95 Milk Street.

The force was rapidly increased. Devonshire, head clerk, presently had a number of assistants. Promotions were rapid. A young man by the name of George D. Milne arrived one day to become Manager Vail's stenographer, and next day found himself in charge of the company's books, assistant to Treasurer Bradley. In time he would be treasurer himself, though that was a more deliberate progress. Another young man, Thomas D. Lockwood, who came from the Western Union to be assistant to Watson, developed, as Watson himself wrote later:

> such an extraordinary faculty for comprehending the intricacies of patents and patent law, that our lawyers captured him very soon and kept him at work until he practically captured their job.

These are only examples of many. The campaign was getting into its stride. The army was multiplying; there was constant need of new leaders. Promotions were made in the field, and there were few mistakes.

The stock began to reflect the conditions. It was selling around fifty dollars a share in the spring, but did not remain long at this figure. It advanced to a hundred dollars a share, to two hundred, to three hundred, and continued its upward course. It began to be evident to the public that the Western Union

had the weak side of the argument, and that the telephone was to take its place with the railroad and the telegraph as a world institution. To his parents still in Waterloo, September 11, 1879, Manager Vail wrote:

> Business is flourishing and looks exceedingly well. Our stock, which started in at $50 a share, is now selling for $350 a share, an increase of sevenfold in about five months. You can imagine that the stockholders all feel happy over it.

Yes, we can imagine. It meant fortune to Hubbard, and Watson, and Bell, and to Sanders who had struggled so hard. There were 8,500 shares of the National Company stock, which, at the figure mentioned by Vail, would be worth about three million dollars. And it did not stop with this figure. The stock kept on climbing until on November 11, 1879, when it became fully known that the Bell and the Western Union were to combine forces, it soared to $1,000 a share.

It requires no stretch of imagination to picture the happiness of Bell stockholders or the corresponding sadness of those who might have been stockholders, who had been begged to become stockholders and declined. Those whom Vail had importuned so earnestly in Washington sat in their revolving chairs —or somewhere on their lonesome runs distributed letters into cases—thinking long thoughts. For a lifetime they would repeat and exaggerate the tale of the fortune they had thrown away. Vail's friend, Thomas J. Brady, owner of shares in the New York Company, had declined the Bell stock, though he had been willing to lend Vail a considerable sum for his

own purchases. Brady wrote confessing his mistake, asking if it were still advisable to buy.

Hubbard's dreams were realized. He and his associates were undeniably rich now; likewise, though in a lesser degree, Theodore Vail, whose wealth was to be still further increased before the end of the year.

We have not given much attention to the affairs of the New York Company in these chapters. There was no need. From the beginning its business had been capably managed, and now in fine new offices at 923 Broadway, corner of Twenty-first Street—"Fifth floor, take the elevator"—it was giving service to a considerable number of people—its Directory a real little book of forty-seven pages and eight hundred names. And if the service was not always perfect, it was at least popular, while the revenues, though not yet sufficient to provide for the always expanding construction, were regarded as large for the capital invested. Dodd, writing to Vail, declared that the business for August showed a profit of $1,600, and that September would return $2,000. He added:

> Without any extra effort we are getting more district than we can keep up with, and our main lines are getting full.

The National Company decided that it must own an institution like that. President Forbes sent Manager Vail over to New York to see what could be done. Vail had increased his original holdings somewhat, but did not own enough to control. His position was a delicate one; he was a buyer for the National Company and a seller for the New York Company. His sense of fairness required him to be open.

One must also be discreet. The Western Union, with whom the final contract had not at this time been signed, had approached the New York Company, and certain of the stockholders were using this as a leverage to boost the price. In the end enough of the stock was obtained to secure control, the price received being several hundred dollars per share. It had cost the stockholders in money only their assessments of two dollars and fifty cents per share, of which assessments there had been less than twenty—certainly a good return to those who eighteen months before had capitalized their courage and ability.

With Theodore Vail's share in this transaction, and his holdings in the National Company, he was for those days a rich man—rated as a millionaire. All of the things he had wanted to do he could do now. He could buy what he wished to buy—even the sable coat and ruby ring of his early ambition; he could have servants and horses; he could live as luxuriously as he pleased.

The first thing that he did was to write the news to Iowa, telling them what had happened, and that the mortgage on the farm, so long a bugbear, need not trouble them any more. It is said that when Davis Vail received the letter from the son for whom once he had expected to provide, he was deeply moved.

The news of Theodore Vail's fortune traveled far and brought him many letters of congratulation. An Iowa friend wrote:

> Yours could hardly have been other than a Merry Christmas, having won a prize of many hundred thousand dollars. Well, I am heartily glad of it. I think no more of Theodore Vail now than

when he was poor like myself, nor do I regard you as one of the kind whose head would be turned with good fortune, no matter how great.

All wrote in that tone; not one begrudged him his success.

With the acquisition of the New York Company and its great and growing prosperity, the National Bell Telephone Company found itself too small a vehicle for so ample a load. At the end of a little more than a year of existence—March 20, 1880—it was succeeded by the American Bell Telephone Company, with a capital stock of $7,350,000, the officers and management remaining as before. The stock of the new company was exchanged for the National Bell stock on a basis of six shares for one. It was issued at par—that is to say, at $100 per share—and stockholders were permitted to subscribe for it at that rate. It did not long remain there. By the end of the following year it was selling at 170, and higher, in effect bringing the National Bell stock (on the six to one basis) back to its highest quoted price. Of this flourishing institution Theodore Vail was recognized as the chief figure, its managing head. At thirty-five he had arrived at a place of power and usefulness such as he had not attained before, and with it had acquired those material emoluments that insure comfort, and justly or otherwise invite the respect of one's fellow-men.

Chapter XXV: Theodore N. Vail of Boston

DURING the half-year in New York Vail had been a commuter, his home at one of the Oranges, New Jersey. On his arrival in Boston he took his little family to a boarding house in Chester Park—now Massachusetts Avenue. As his prosperity increased he rented a house in Townsend Street, Roxbury. But then came fortune, and with it a desire for a home of his own, one befitting his position and means.

There had come a moment when the prairies of the West called to him—the wide open spaces of Iowa—a moment when he contemplated withdrawing from the whirl of affairs and returning to the quiet shade of Speedwell Grove. He wrote his mother of this thought, and she eagerly urged him to act upon it and "enjoy quietly the remaining years of life." It was only a fleeting impulse. Theodore Vail at thirty-five could not retire from the field, even in the fullness of conquest, and his love for the concomitants of wealth was too great for him ever to be satisfied with the simple comforts of an Iowa farm. It was an idea that he liked to dally with, then and always, but he was never in any danger of making it reality. He invested money in and about Waterloo—made a number of loans on farms in that locality—but he decided not to locate there.

He was already negotiating for the big Chadwick

house and grounds on Walnut Avenue, Roxbury, which he bought in June, 1881, at a price then considered handsome for a home—something more than fifty thousand dollars. It was a house of the period —American mid-Victorian—square and Mansard without, square and Eastlake within; the rooms large, the grounds shady and ample. Waterloo was well enough as a dream, but the Walnut Avenue place was more to Theodore Vail's liking, and he proceeded to expand and glorify it in his lavish way. Three years before, at a moment when the fight was hardest, his wife had written him, "I wish we had a house of our own, no matter how small, where you and I and Davis could enjoy ourselves in our own small way." She was remembering Omaha, perhaps; certainly she never dreamed of the home that would be hers in such a little while.

There were gardens and greenhouses and stables at Walnut Avenue, and a fountain and wide sloping lawns. Within the house were rich carpets and draperies, and prismed chandeliers. There were paintings, too, that in time would fill the walls and grow into a veritable collection; also there was statuary of bronze and marble in many corners, and in one there was a stuffed bear, with a variety of skins scattered through the hall. There was a billiard room, a wine cellar—everything, in short, that went to make up the home of wealth and luxury in that more exuberant day. It was the sort of home that the rich and generous man of the early 'eighties was likely to assemble, only that it was rather more generous in its opulence and its hospitality than most rich men

of that time would have thought themselves able to afford.

Not all of its splendors were acquired at once, but a great many of them were, for Theodore Vail had a tendency to buy generously when he was in the mood —by wholesale, so to speak—it being always easier to buy two pictures than one, a collection of bric-à-brac rather than a single piece. He could only do things in a big way, a characteristic expressed no less by the homes of his prosperous years than by his great industrial achievements. His purchases were prompted by no desire for vain show, but by his love of luxury, of a home that gave outward and visible symbol of its rich welcome.

He could entertain as lavishly as he pleased, and it pleased him to have his hospitality as wide as his fortune. His ability as a host—restricted by circumstance in the Washington days—could now be exercised to the full. Whatever the hour, whatever the occasion, no one ever failed of welcome in the Walnut Avenue home.

> Come in the evening or come in the morning,
> Come when expected, or come without warning,
> Welcome you find here before you.

That was its motto, and never was a motto more fully justified. There were nearly always guests; some of them—members of his own family—permanent ones. One sister after another came, and eventually his parents. He was by nature tribal; as head of his clan he liked to assemble his own about him.

He was fond of animals and acquired some fine

dogs and high-bred horses. In the carriage house were smart turnouts—a landau, traps, carts, sleighs, a phaeton for Mrs. Vail and the little boy, and always a Goddard buggy for himself. He no longer took a car or a cab to the office, but rode or drove down in handsome style. Often when he left the office he went for a long drive alone in his Goddard buggy, to think out his problems. He developed a real passion for driving, and the skill acquired in directing three horses hitched to a big prairie plow qualified him to handle with confidence four horses of mettle, handsome Kentucky grays, hitched to a tally-ho. Driving four-in-hand became his favorite diversion.

Goodly sums of money were needed to support the new establishment, but money was coming very rapidly now. He had stock in many telephone companies, and all of them were booming. The American Bell kept climbing until it touched three hundred dollars a share, and he had plenty of shares.

His life was not a round of pleasure. The prosperity of the telephone industry had changed somewhat the nature of his cares, but it had not lightened them. His daily mail made a respectable mountain on his desk, and most if it came from men and women asking for situations. Either there was very little to do in that day or the telephone with its golden fortunes had dazzled toiling humanity. It is no exaggeration to say that eight out of ten of the letters he received were requests for jobs, and of the remaining two one offered an invention and the other asked for a loan. Most of the applicants urged some sort of claim. Friends and relatives of friends, friends

and relatives of directors, descended upon him in hordes; if he had been of a less imperturbable temperament they would have worn him down. He gave positions to as many as he could, but there were not enough to go around. For some he found places in the postal service, where he was still a powerful influence, constantly consulted by his successor, W. B. Thompson, and his old assistant, John Jameson. They seldom did anything important without referring to him, and this added considerably to his load. Now and again he made a trip to Washington, partly in the interest of the telephone, but mainly to look into the affairs of the department. He always had a great reception on one of these Washington trips; his old friends assembled and it made him happy to give them royal entertainment.

"Vail," asked one of them on an occasion of this sort, "are you still borrowing fifty or a hundred dollars to put into some patent?"

"Well," he answered, "I am still borrowing, just the same; only now it's fifty or a hundred thousand."

As a matter of fact he was still putting money into a variety of attractive patents, inventions that promised to revolutionize their several industries. He would always be doing that as long as he lived. He was also creating telephone companies—corporations to care for the business in various corners of the world —so many that it must sometimes have been difficult to find names for them. The International, the Continental, the United, the West Coast, the Oriental (the latter for Asia), were a few of these. He became interested in the manufacture of storage batteries

called Accumulators, one of which blew up one day with serious but not entirely discouraging results. Then there was a Fancy Article Manufacturing Company; an Ash and Garbage Vault Company; an Enameled Leather Company; a Patent Gunsight Company; and, finally—though these were by no means all—a Colorado silver mine, the Pelican and Dives, into which he and his friends piled their money as if they expected to fill it full. It may well be imagined that these things were sometimes a drain, and that he found it necessary to borrow, somewhat in the old way, the larger sums mentioned, though doubtless on more favorable terms.

That he hoped to make money on these many investments is true enough, but the thought of profit was always secondary. His first idea was to establish, or extend, some important enterprise—some manufacturing or mining industry that would grow and grow and give labor and benefit to the race. He was pre-eminently a builder, a developer. Mere money—through the purchase of stocks in the market, for instance—did not interest him. He never followed a tip on the Street, never in his life speculated to the extent of a single share. Patent rights fascinated him; he generally took some shares in anything that promised to revolutionize any industry, new or old. Then, as likely as not, he would find himself with the whole enterprise on his hands, and the adventure was seldom an inexpensive one. His old friend and backer, Thomas J. Brady, unloaded upon him a lumber camp in Canada, but this he was glad to take over, even at a loss. Brady had got into deep trouble

in the matter of the Star Route indictments, in which he was involved.

The Star Routes, it may be said, were rural-delivery routes marked with a star on the postal maps. It was charged that Brady and others had manipulated the contracts for these routes to their own profit. The Star Route trial became a celebrated case. Col. Robert G. Ingersoll defended and cleared the accused men, but it cost Brady his fortune. Theodore Vail all his life characterized the action against Brady as a conspiracy, "one of the most dastardly political acts ever perpetrated." But the public mind then believed the accused men guilty, and because Vail assisted Brady financially it was charged in some quarters—though never openly—that he was implicated.[1]

A phrenological chart made of Theodore Vail about this time (June, 1882) is not without interest. The phrenologist, whose name was Sizer, of the Fowler and Wells "cabinet," generalizes somewhat, according to the custom of these "scientists," but on the whole his reading is sufficiently definite. A few of the items follow:

> Your conscience is strong; you feel in duty bound to be upright, but are not so squeamish about little matters of conscience as many people are; you want the general trend and drift of a man's life to be towards the right—his general motive to be upward. You would give more leniency to people's tastes modified by the way they were brought up than most men would.

[1] The Star Route trials began June 1, 1882, closing June 11, 1883: verdict, "Not guilty as indicted." An amusing anecdote is told of Robert Ingersoll in connection with this case. Colonel Ingersoll, after a hard day in court with the judge, was walking wearily homeward when a mule standing at the curb put out his head and snapped at him. Turning, Ingersoll said, "What court are you judge in?"

If you were to fail in business and they were to sweep every dollar out from under you, you would consider your age, your health, your strength, and if you had been straight before God and man in the whole business arrangement you would expect to go right to the men who would have lost by it and ask them to extend credit to you, and you would get it.

To you money is what a railroad ticket is: when you want to go somewhere it is a comfort, an assistant, a helper, not a thing to be worshiped.

You are ambitious to be respected: if you were a business man and you failed, and everybody spoke well of you, you would value the confidence and respect as being worth a great deal more than the money you lost.

In the main these are rather positive statements. We shall see as the chapters pass how far they conform to the facts.

Chapter XXVI: The Descent of the Claimant

THE success of the telephone made it a shining mark for an army of inventors who came not only with avowed improvements of every sort, but some of them with claims to discoveries antedating patents used by the Bell Company, even Bell's patent of the telephone itself. Many of these claimants came to the general manager's office, and were courteously received, the general manager listening in silence, drawing little pictures with his pencil on any handy margin of paper while they talked.

Some of the inventions offered were promising. These he bought or turned their inventors over to the examination department which he had presently established, with T. D. Lockwood as the head. As to the claimants, these were sometimes cranks, sometimes mistaken but conscientious men, sometimes frauds, pure and simple. One might have supposed that after the victory over the Western Union with such inventors as Gray and Dolbear, and all the evidence brought out in that trial, lesser claimants would have kept aloof. Nothing of the sort. The telephone was too rich a prize, too easy of "discovery," once found, ever during the life of the patent to be immune from attack. A thousand inventors awoke to the thought that anyone might have stumbled upon the pot of gold; the fact that only one man had found it was maddening. A great number decided

to find it now. They would have to antedate their discoveries somewhat, but no matter. If they could upset Bell's patent, a few years more or less did not count.

When the claimants were clearly cranks and harmless, or when they had deceived themselves and were only pathetic, Manager Vail talked to them kindly, gave them a few dollars, and sent them on their way.

Some of the "patentees" he found amusing. One wild-eyed individual, even in that early day, claimed to have discovered the means of telephoning without wires. He was invited to bring his apparatus, but it must have been only dream stuff, for it did not materialize. Another caller declared he had perfected a remedy for the noises on the wire, at that time causing so much trouble. He demanded a hundred thousand dollars for his invention.

"I'll pay you more than that for it," said Vail, "if it is all that you claim."

The applicant requested a deposit, say ten per cent, in cash. He was very tenacious and voluble; the general manager finally compromised by giving him a modest sum on account. He did not return.

Some of the cases were troublesome. One Daniel Drawbaugh, from a country village in Pennsylvania, claimed to have invented and used a telephone several years prior to its invention by Doctor Bell. The telephone attorneys at first did not give serious attention to Drawbaugh, but he persisted and they were finally obliged to take notice of him. There is a class of speculators always ready to take up the cases of such claimants, and Drawbaugh even succeeded in

getting a firm of bankers in Washington to organize the so-called Peoples' Telephone Company and finance his claim. The case, exploited by sensational newspapers, became a celebrated one. A great many persons were brought to believe in the plausible story of the man who claimed that for ten years he had worked to perfect his machine and because of "utter and abject poverty" had been unable to patent and market it.

The Drawbaugh case dragged through several years before it ended with victory for the Bell Company. The claimant turned out to be merely an ingenious village tinker, with a curious mania, due to a species of vanity, for copying or imitating something new in mechanics, exhibiting the result as his own creation of some previous time. More than forty of his "inventions" were shown in court, and in the decision rendered against him he was censured by the judge for "deliberately falsifying the facts."

As we are not writing the history of the telephone in sequence and detail, it may be as well, here as anywhere, to set down a brief mention of other attacks made on the Bell patents during the seventeen years of their existence. Following the Drawbaugh defeat there came an assembly of inventors and their friends, who formed the Overland Company and strung wires and sold stock after the usual manner of such promoters. An injunction against them was refused, or at all events, postponed, and such was the effect on the public mind that the Bell stock declined in price. Aside from annoyance and legal expense no real damage resulted; the Overland Company's case

was one of the few to reach the Supreme Court of the United States, where it was finally dismissed.

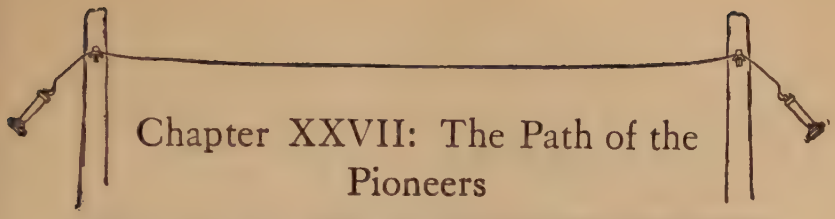
But there were other cases—many of them. Dolbear himself, still unsatisfied, brought out his Condenser Telephone, but it was only a new form of infringement. Then there was the Eaton Telephone Company, and a man named Irwin who attacked the Blake transmitter, and the Molecular Telephone, and the MacDonough, and so on, world without end. Each claim lived its little day and died; and then at last a basketful of "modification patents" was assembled, issued to one Rogers and collected by ardent Southern politicians, who, through political manipulation, induced the government to *bring suit for the annulment of the Bell patents, on the ground that they had been obtained by fraud.*

A more high-handed assault upon human rights has seldom been dignified by legal proceedings. The association behind it called itself the Pan-Electric Company, capitalized at $5,000,000. Gen. Joseph E. Johnston of Virginia was president of the Pan-Electric, Senator A. H. Garland of Arkansas its attorney, Senator Harris of Tennessee one of its directors. These are men of honorable memory. One wonders to-day what arguments and persuasions were employed to mislead them.

The case finally came to a hearing in the United States Circuit Court, where all the evidence of all the other trials was collected and rehearsed. Doctor Bell himself patiently testified during nine weeks, day after day, telling the simple story of how with a magnet and a piece of clock spring he had transmitted

the human voice over a wire. This was in 1892, when the Bell patent had been in existence for sixteen years. It seems now almost too ridiculous to record, but this litigation continued until 1896, when the original patents had long since expired and the counsel in charge of the case for the government died, perhaps of old age. At all events the case did, for it was never heard of again. The evidence of this remarkable suit was collected and printed by the Bell Company. It filled four hundred and sixty-nine large pages, making a volume of nearly a quarter of a million words.

The validity of the Bell patents was tested in upward of six hundred lawsuits, all of which ended with success for the Bell Company, only five of the suits having reached the Supreme Court.



Chapter XXVII: The Path of the Pioneers

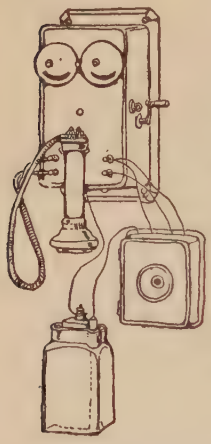
FOLLOWING the business story of the telephone we have lost sight of its mechanical progress. This had been very rapid and very great. Watson and Bell were always experimenting; Vail himself frequently suggested something new, and by 1882 had taken out a round dozen of patents, five of them on signaling apparatus, three on circuit-closing devices, three on switchboards, and one on subterranean conductors.

We have seen how in the beginning a telephone line consisted simply of a single iron wire, like a clothes-line, with but one device at each end serving both as transmitter and receiver, and no means of signaling other than to tap lightly with the finger nail or a lead pencil on the diaphragm, thus producing a slight clicking sound at the other end. It was Watson who developed the signaling device—first a small hammer adjusted to take the place of the lead pencil, then a kind of buzzer, a relic of the harmonic telegraph, then a magneto-electric call-bell, that did not always work, but on the whole was a great improvement. Perfected, it continued in use for many years.

Now came a young man named Emil Berliner, a German immigrant who in 1870 had landed at Castle Garden, and seven years later invented the microphone transmitter, the one in use by the Bell Company until Blake's microphone was adopted. Berliner's

transmitter, it should be stated, embodied the fundamental principles of all successful transmitters, including those in use to-day.

The telephone was slow to acquire accepted form. For a considerable period each lot turned out by the Williams factory had an individuality of its own; even different instruments of the same lot showed more or less important changes.[1] Watson was always at work to get better results with his signaling apparatus, and, what was still more important, to improve the intelligibility. The single device for both speaking and listening continued in use until about the beginning of 1879, and in some places one noticed a sign over it which said, "Don't talk with your ear and listen with your mouth." Affluent persons sometimes had two instruments, and held one to the lips, the other to the ear. The Blake transmitter assumed the form of a small separate box fastened to the wall. There was also by this time, or a little later, a battery attached. It was



A TELEPHONE "SET" ABOUT 1879–80

[1] In a recent conversation with the author, Mr. N. T. Guernsey made the following interesting comment: "An important fact that few people appreciate, either within or outside the Bell System, is that what was acquired from Doctor Bell was nothing more than the right to use his idea. There was no commercially practical apparatus; there was no science or art of telephony. The undertaking of the Bell System when Mr. Vail became its manager was to develop this art and science and to build upon it a great public service. The undertaking was not, as people are apt to believe, merely to take a commercially practical piece of patented apparatus and put that on the market. Everything had to be created."

now only another step to combine the transmitter with the ringing and listening combination, put the battery into a little covered box below, and the big wall telephone, still widely remembered, and in some places still in use, was the result. The telephone was now complete in all its parts—primitive, but a rounded unit—a "set," as it was called, lacking only perfection of detail.

The conduction problem remained troublesome. The ground was used for the return circuit, and as such was far from satisfactory. There was a waste of current and there were the annoying, sometimes even terrifying, noises mentioned in an earlier chapter. Blake's transmitter with its stronger talking currents had helped, but this was not enough. Trespassing currents from parallel wires carrying the telegraph, the burglar alarm, the messenger-service currents and the high-power electric-light voltage—the newest and deadliest enemy of transmitted speech—often made telephonic conversation an exasperation rather than a comfort.

A line was built from Boston to Providence—an early experiment in "long distance," called the "Governors' line," because Governor Jewell of Connecticut and other chief state executives had given it financial support. It consisted of four single wires, and they refused to furnish anything but a series of disturbing noises. The governors were discouraged, and Manager Vail, by this time a person of affluence, assumed the enterprise with its varied uncertainties, insisting that it could be made to work and to pay.

In the Boston exchange there was a young man

by the name of John J. Carty. He had come as an operator, and though Holmes had presently dismissed his staff of boys as being noisy and unruly, replacing them with girls, young Carty had developed such an aptitude for electrical appliances and their improvement that he continued in the business, first with Holmes, later with the New England Company, as manager of the exchange. In time Carty would become chief engineer of all the wires, the last court of appeal in telephonic science, and the thing he now did carried him a step in that direction. It occurred to Carty to double the wires—that in the telephone game "two pairs" might be better than "four of a kind." He made the experiment, with magical results. The offending demons that had been having their way with the talking circuits retired to their own territory and were heard no more. The Boston-Providence line, a success from every point of view, was presently taken over by the Bell Company.[1]

The switchboard, the nerve center of the telephone system, had also made important progress. It was no longer the simple affair devised by Holmes for his five subscribers. The peg switchboard of the telegraph was the natural beginning, and was rapidly improved to conform with new conditions and requirements. A young man named E. T. Gilliland, an electrical manufacturer of Indianapolis with new ideas, had made it perform wonders hitherto undreamed.[2]

[1] The all-metallic circuit was not new, but it had never been employed in commercial telephone construction; or, at all events, not on the long wires.

[2] The multiple switchboard, one of the world's mechanical marvels, invented by L. B. Firman of Chicago, was brought to its present state of perfection largely through the wonderful work of Charles E. Scribner of the

Gilliland was anxious to enter into relations with the Bell Company, and was invited by Manager Vail to come to Boston to discuss matters. The first meeting of these two men was characteristic. Gilliland arrived and was shown into the general manager's office. When he came out he wore a worried expression, and he inquired of Devonshire what kind of man Mr. Vail was. Questioned as to his troubles, he said:

"Well, I've been telling him my hopes and aspirations for the past two hours—I have, perhaps, told him more than I intended, and all I got from him was a smile and a nod of his head, while he was drawing with a pencil on the margins of letters all sorts of figures and designs until the end of our interview, when he expressed himself as pleased to have met me, and said he would think the matter over and that I would hear from him in a few days."

In the end Gilliland came to Boston and proved an invaluable addition to the mechanical department.

Gilliland took what he found to work with, surrounded himself with capable young men, simplified the methods of production—reducing cost and gaining steadily in the efficiency of equipment. The manufacture of telephone apparatus still had a long way to go to arrive at perfection, but it was becoming systematized and controlled.

Also standardized as to models. As early as 1882 Manager Vail had recommended the purchase of the

Western Electric Company. The multiple switchboard permits the exchange operator to make direct connections—*i. e.*, without switching—and therefore saves time estimated at about ten seconds per call. Upon the basis of the 1914 business this meant to the telephone users of this country a saving of about 1,383 years per annum.

plant of Charles Williams of Boston, a control in the Western Electric Company of Chicago, and some minor institutions engaged in the manufacture of switchboards and signaling devices. His suggestion was promptly carried out, and this important merger which meant regulation of production, as well as uniformity of pattern, was made. From this time forward the Western Electric took over more and more of the manufacture of telephone apparatus, and the day would come when they would produce it all.

Charles Williams, perhaps, might have had this monopoly. One day, driving in the outskirts of Boston, Manager Vail noticed a strip of land on Harrison Avenue, south of Northampton Street, which he thought well adapted for a factory site, and suggested to Williams that he build there. An option was secured on the land, but nothing further was done in the matter, owing, it was said, to the advice of Williams's wife, who had it in mind that Williams would probably sell out before long, anyway, and could then get very little more for his business with a factory than without one. She may have been right, for Williams did retire not so long after, with means sufficient to repay him for his years of faithful struggle. It should be added here that his associates of those difficult days, Sanders, Watson and Hubbard, likewise severed their active connection with the Bell Company about this period, each with an ample fortune.

As a pendant to this chapter a report made by "Inspector" Lockwood to General Manager Vail, some months after the latter's arrival in Boston, may be found interesting, also rather amusing, in its picture

of conditions at that early period. We quote only extracts:

(1) The multitude of flexible cords required to manipulate a large system—fully 30 on an average—give out per diem—causing delay to subscribers and annoyance to operators. They are also continually tangling together, and in the aggregate much time is lost, in extrication.

(2) The operators are all females, which of course has its advantages and disadvantages, which here it is unnecessary to comment on, barely mentioning the fact that notwithstanding the pronounced opinion of resident authorities that female operators are much superior to males, the fact remains, viz.: That the office manager, unless an unusually well-balanced man, is liable to form preferences, and favor some to the exclusion of others. The young ladies also appear fond of airing their voices, and sometimes prolong telephonic conversation, to talk with subscribers, again losing time. On the other hand, they exceed males in civility and general attention to their own tables.

(3) When a call comes in it is promptly answered by the man at the switch, who calls out the name of parties to the clerk. The clerk writes the names on a slip of paper and hands it to a boy, who makes the connections on the switch, then passes the slip to the operator at the table. This operation, though a good check, both on the operator and the public, strikes me as rather cumberous, and intricate. . . . I also notice that the switch boys frequently make mistakes in connections, and am informed by a switchman that sometimes seven minutes elapse before the parties get to conversing with each other, and that sometimes a man had to wait so long that he had forgotten his call.

Inspector Lockwood suggests a few simple remedies for these troubles which were rapidly corrected, no doubt. A letter written just at this time to H. W. Pope, who had succeeded as general superintendent of the New York Company, in reference to establishing new exchanges was, we may believe, a result of Mr. Lockwood's report. For the reason that it char-

acteristically expresses Manager Vail's policy of progress in whatever related to the service it is quoted here in full:

BOSTON, *June 26, 1879.*

DEAR SIR:

Before putting in any exchanges or starting in or even planning for a central office system I think it would be well for you to consult thoroughly with Mr. Watson, and examine minutely into our standard system for central office connections. What we want to do in every case is to adopt the best system, and that we think we have. Then if there is anything better we should of course want to adopt that.

Please let me hear from you in regard to this.

Yours truly,

THEO. N. VAIL
G. M.

H. W. POPE
699 B'way.

Chapter XXVIII: Facts, Figures, and an Important Change

IT is necessary to keep stepping back a little in this history; its details are too diverse to march abreast.

The first annual report of the American Bell Telephone Company, made March 29, 1881, gives the number of instruments in use at the beginning of the previous year as nearly sixty-one thousand. It further states that during the year, including those taken over from the Western Union, a little less than seventy-two thousand have been added; also, that the total number of exchanges is now four hundred and eight. The last figure has a rather small look, when one remembers all the hard work that had been done during the three preceding years, not only by the Bell Company, but by its rivals.

On reflection, however, that most of these exchanges were in towns of only medium size, in each of which it had been necessary to raise capital and secure subscribers for an entirely new, untried, and only partially successful invention, the number assumes more dignified proportions. What is still more calculated to command our respect is the fact that on January 1st of that year there had been paid a dividend of $178,500. This did not mean that the receipts had overtaken the cost of construction—the time would probably never come when that would be the case—but that the profits had provided for operating expenses,

interest on loans, etc., and left this amount to be distributed among the stockholders, with a good margin for safety, in reserve. It may be of further interest to know that there were twenty-eight thousand miles of wire at this time in operation, a figure that would grow to nearly fifty thousand during the year.

The increase was rapid now. Vail and Madden had capable agents out in every direction; exchanges and subscribers multiplied. Two dividends, aggregating $416,500, were paid during 1882. The next year, likewise, showed an increase in the number of exchanges, the miles of wire and the earnings, though without a proportionate improvement in the demand for new telephones, this last condition being partly ascribed to "a dullness in general business," and partly to the fact that a number of telephone managers had "put their strength into the connections of towns with each other which, though adding to the value of each exchange, does not increase the number of instruments in use as much as if the work was done on the exchanges themselves."[1]

It is easy to believe that Theodore Vail had encouraged managers everywhere to go in for the longer service, for that was his favorite dream. The report of that year also mentions a tendency toward the consolidation of companies under one capable management, "the importance to the public of having the business done in large territories under one responsible head, with far-reaching connections throughout the whole country." This was a considerable look ahead,

[1] Report of the directors of the American Bell Telephone Company, March 25, 1884.

though it was no more than Vail himself had long foreseen. The seed of "one system and universal service" was being planted.

The report further refers to the more or less immediate prospect of putting wires underground, especially in the larger cities. This had been tried, in fact, though with only partially successful results. Overhead cables, too, were coming into use. Indeed, at this early period we find the beginning of most of the things that in vastly multiplied proportions constitute the telephone world of to-day. But what seems the important feature of the year's summary is the statement that a line from Boston to New York has been completed and is "now almost ready for trial." The report adds:

> With this we shall see whether sufficiently good results can be obtained for commercial purposes, and if the result is satisfactory, we propose to have the experiment at once followed by the establishment of lines for public service between these and other points of importance.

The completion of the Boston and New York line marked the beginning of a great new departure in telephone achievement—*viz.*, long-distance construction with hard-drawn copper wire. The success of the Boston-Providence line had encouraged not only General Manager Vail, but his company, to extend the service westward—in the direction, at least, of New York. There was, however, one very serious obstacle to such an undertaking—the conductivity and tensile strength of the material available for the wire. Thus far all the wires were of iron, which had very definite limits as to distance; the telephone current, the frail-

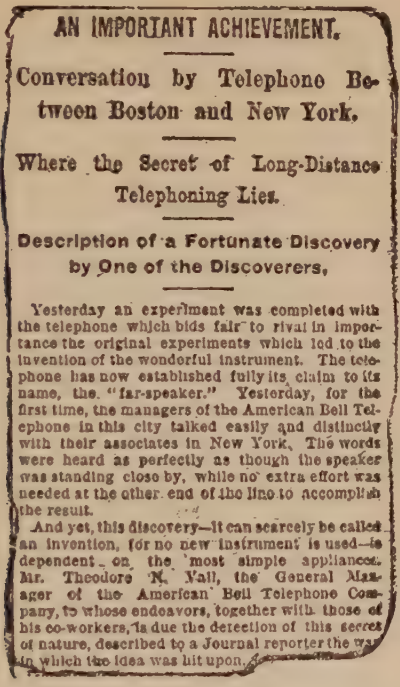
est of all magnetic impulses, scarcely more than an electric thought, seemed to lose its way among the grosser molecules. Copper and silver were the ideal metals, but silver was too costly and copper too soft. A copper span of any length sagged in warm weather and did not contract in cold, eventually becoming a mere swing that touched the ground. Theodore Vail resolved that something must be done to correct this inherent weakness.

It is said that luck waits upon determination, and it would seem to have done so in this instance. There was at the time, in Bridgeport, a young man by the name of Thomas B. Doolittle, associated in some relation with the manufacture of wires. Doolittle was also an amateur telegrapher and had established a small telegraph "exchange," a switchboard by which he could connect the various circuits of his amateur friends. Being of an ingenious turn of mind, he had undertaken some experiments with wires of various sorts, in the course of which he had discovered that copper wire, drawn cold, acquired a degree of hardness and strength hitherto unknown. It was one of those great simple developements that revolutionize the industries of the world.

Whether Vail heard of Doolittle or Doolittle learned of Vail's urgent need of his product is not quite certain. Doolittle would seem to have had some difficulty in getting his wire adopted for telephone use, but at the right moment it was brought to the attention of General Manager Vail, and experiments with it were soon under way. They were successful, and the Boston-New York circuit was undertaken with con-

fidence. Doolittle's name had belied him; he had done *much*—everything, in fact, for long-distance service.[1]

By the spring of 1884 the metallic copper circuit connected the two big cities and fairly audible conversation over it had been carried on. The Boston *Journal* of March 28th announced on its front page:



AN IMPORTANT ACHIEVEMENT.

Conversation by Telephone Between Boston and New York.

Where the Secret of Long-Distance Telephoning Lies.

Description of a Fortunate Discovery by One of the Discoverers.

Yesterday an experiment was completed with the telephone which bids fair to rival in importance the original experiments which led to the invention of the wonderful instrument. The telephone has now established fully its claim to its name, the "far-speaker." Yesterday, for the first time, the managers of the American Bell Telephone in this city talked easily and distinctly with their associates in New York. The words were heard as perfectly as though the speaker was standing close by, while no extra effort was needed at the other end of the line to accomplish the result.

And yet, this discovery—it can scarcely be called an invention, for no new instrument is used—is dependent on the most simple appliances. Mr. Theodore N. Vail, the General Manager of the American Bell Telephone Company, to whose endeavors, together with those of his co-workers, is due the detection of this secret of nature, described to a Journal reporter the way in which the idea was hit upon.

The *Journal's* declaration that the telephone managers in the two cities had talked easily and distinctly to each other, and that the words were heard "as perfectly

[1] Thomas B. Doolittle died April 4, 1921.

as though the speaker was standing close by," may be taken with the usual allowance for newspaper enthusiasm. An interview with Manager Vail brought out the facts that extensions to Washington and the Western cities were within the company's plans, and that these possibilities were the result of the process of hardening copper wire.

The new line was not yet ready for the public. Two weeks later Lockwood reported that it was talking well to New London and Essex (Connecticut), the latter one hundred and forty-three miles from Boston. It was not long after that until it was open to the public and for the first time in history Boston and New York spoke as face to face.[1]

General Manager Vail's company had not been very enthusiastic in the prospect of the Boston-New York venture, but its successful conclusion and its prompt earnings encouraged further experiments. An arrangement was made with the Metropolitan Company of New York [2] to build a twelve-circuit line from that city to Philadelphia, each company to share one-half the expenses and receipts. The Bell Company's report for December 31, 1885, records that "the line practically completed and with twenty-five wires will cost about two hundred and fifteen thousand dollars." The report for 1885 contains other matters of

[1] Not literally. Bell and Watson once in the days of their early experimentation had borrowed for a brief time an Atlantic and Pacific telegraph wire (iron, of course) between Boston and New York, and managed to hear each other shout a few words, a remarkable achievement for that medium and their imperfect instruments; so remarkable that it requires almost as great a strain to believe in it now as it did then for Watson to make Bell hear him.

[2] Formerly the Bell Telephone Company of New York.

interest. Dividends in the sum of more than a million and a half dollars from a return of less than three million had been paid that year, certainly a good percentage of profit. The exhibit, however, is not quite as good as it looks, for the report further tells us that the cost of maintenance and reconstruction has been generally underestimated; managers and stockholders having been forced to recognize that telephone profits were less than they had expected or believed. In other words, the business of talk wore out wire and instruments.

Once in later years Theodore Vail told the writer of this history that a growing dissatisfaction with his position at this period was due in part to the company's reluctance to spend money in keeping the service at maximum, preferring to distribute larger dividends. This might easily be true, but there were other important reasons that prompted him to consider a change. For one thing, he was deeply and personally interested in the formidable task of putting metropolitan wires underground. An item in the report furnishes another and still more important reason; nothing less, in fact, than the historic announcement of the formation of the American Telephone and Telegraph Company for the further development of the long lines, with Theodore N. Vail as its president. The report adds:

> Last summer, Mr. Vail, feeling that a due regard for his health required relief from the arduous duties of General Manager, resigned that position, which he had held with great benefit to the company since its formation. Being desirous of availing ourselves of his energy and wide knowledge of the telephone business, we made

arrangements with him by which he undertook the general supervision of the American Telephone and Telegraph Company, as President, and the more immediate supervision of the affairs of the New York Company. He will also give such attention to any other of our interests that we may from time to time desire.

Mr. John E. Hudson, who has been with us as counsel for years, accepted the position of General Manager and Solicitor, and his familiarity with our affairs has enabled us to make a change in management with the least possible inconvenience.

The report further informs us that Mr. C. Jay French, formerly of the Railway Mail Service and more recently associated with important Western telephone companies, has been elected assistant general manager in the place of Mr. Madden, who had resigned during the year.[1]

The New York Company, called the Metropolitan Company at this time, had undertaken to bury the wires in New York City and Brooklyn, while the American Telephone and Telegraph Company would devote its energies to the business of long wire extensions. We can understand how two such enterprises would appeal to Theodore Vail, but just how they were expected to lighten his load of responsibility is not so clear.

[1] Mr. French later became general manager of the telephone company, a position which he filled with distinction for many years.

Chapter XXIX: Speedwell Farms

AS a matter of fact, the retiring manager's health had been none too robust for some time. What with the affairs of the Bell Company and the lesser but no less variegated and exacting demands of the dozen or twenty companies with which he was associated, most of which he had created, he had too many irons in the fire, even for his ample intellect and physical resources.

He had made some provision, however, for relaxation. Two years earlier—in February, 1883—when he found that he was not sleeping well, he had paid a winter visit to the snowy Vermont hills, believing that the stimulation of a higher altitude and steady cold might afford relief. An old friend of both the postal and telephone service, by the name of Luther B. Harris, had bought a Vermont farm overlooking Lyndonville, and often had written picturing the delights of his situation, the magnificence of the view. Vail found it all as Harris had described: the farmhouse on the hilltop, looking across the snowy valley and nestling village to the Kirby hills of which Burke Mountain was the chief; the tips of the Franconia Range rising white against the blue, and everywhere the snowy silence, seemed to him the most beautiful and tranquilizing thing in the world. He slept that night in the Harris home, and next morning declared that he had enjoyed the best night's sleep he had known

for years. He said he must have a farm there to come to for relaxation. A man named Calvin D. Bigelow owned a place on the adjoining hill—an old-fashioned Vermont farmhouse and two hundred and fifty acres of land. Vail in his prompt way arranged with Harris to buy it, and ordered such improvements as would make it habitable for the summer. Then he went back to Boston and began sending up a variety of articles that would add to its comforts. On the Fourth of July he arrived with Mrs. Vail and Davis, now a boy of thirteen, to take possession. It was a lovely and peaceful spot, and though Vail himself could not remain steadily, he came as often and for as long a time as his activities would permit.

He called it Speedwell Farms, thus still carrying on the name associated with the family's chief tradition. He stocked Speedwell with horses and cattle, added something to the house and barns, and showed his interest in the community by subscribing that first summer two thousand dollars for needed reconstruction and refurnishing of the village high school, the Lyndon Literary and Biblical Institution, which had been closed for lack of funds.

He returned each summer to Speedwell Farms and the place grew and improved accordingly. Additions to the stock and the buildings continued steadily, until by the summer of his retirement from the Bell Company it had become a real country home.

He loved the place, would love it all his life. A long time before—it was back in the Washington days—he had written to little Davis, then about seven years old, a letter in which he said:

When daddy can afford it we will buy a little farm, and you and mamma and I will live on it and keep pigs, and colts, and cows, and lots of rabbits and chickens. What fun we shall have, and we will keep some little ponies to ride.

The farm was a reality now. It was not exactly a "little farm," and it was not the simple retreat that in his days of lesser circumstances he had planned. But it had all the things he had promised, as well as a great many more, and Davis, a sturdy boy at Exeter, doubtless found it a most desirable place for his summer vacations.

Certainly his father did. He spent a good deal of his time while there driving about the country, making the acquaintance of the farmers and the winding roads. He especially enjoyed talking to the old settlers. Three of them, Charles Folsom, Amasa Harris, and Calvin Bigelow of whom he had bought the farm, never failed to interest him. Bigelow was a man of easy manner and fine breeding; Folsom, generous and kindly, handsome and of commanding presence, won his admiration; Amasa Harris was a typical Vermont Yankee, and his keen wit furnished amusement that Theodore Vail never forgot.

With his retirement from the Bell management, Vail doubtless hoped to give himself more freely to the relaxations of Speedwell. He may have done so for a time, but it became evident that his great new undertakings would claim him more and more. It was work that suited him exactly: construction, mighty and beset with obstacles; vast achievement, entirely in his own hands.

Chapter XXX: Long Lines, and Underground

IN a speech made by Chief Engineer John J. Carty to the Telephone Society of New England, in June, 1910, he told how in the early days of the Boston exchange an old lady had labored up the three long flights to the telephone office, and when she had recovered herself sufficiently to speak, announced that she wished to talk to her son in Chicago. Some rumor of the possibilities of the telephone had reached her and she had accepted them as already accomplished. Salem, sixteen miles away, was at that time "long distance"; a wire to Lowell had been completed and it sometimes worked; while Worcester, Carty said, forty miles or less to the westward, was "the limit—in every sense of the word." The boys in the office—they were all boys in the beginning, characterized by Carty as "wild Indians"—laughed at the guileless old lady, and even more at young Carty when, after her departure, he thrilled with the spirit of prophecy, declaring that the day of long-distance speech, even with Chicago, would come. He was not the only one of that mind. Almost at the same moment Theodore Vail in New York was writing to his traveling representatives:

> Tell our agents that we have a proposition on foot to connect the different cities for the purpose of personal communication, and in other ways to organize a grand telephonic system.

Now, after seven years of faithful service, the work really had begun. Boston was talking to New York and Philadelphia, and a new company had been organized for the special purpose of making the dream of a "grand telephonic system" come true.

The Articles of Incorporation of the American Telephone and Telegraph Company is an ambitious document, and but for its length would be worth printing here in full.[1] The original incorporators were Edward J. Hall, Jr., Thomas B. Doolittle, Joseph P. Davis, and our old acquaintance of the original New York Company, Amzi S. Dodd. After reciting that the general route of its lines will be from a point or points in the city of New York along all railroads, bridges, highways, and other practicable, suitable, and convenient ways or courses to the cities of Albany, Boston, and intermediate points, it heads out straight into the wilderness across New Jersey to Philadelphia, Baltimore, Washington, Charleston, and New Orleans; thence in a northern sweep through Buffalo to Cleveland, Indianapolis, and Chicago, still westward to Kansas City, Denver, Salt Lake, San Francisco, Portland, covering all intermediate cities, towns, and places. Even Canada and Mexico are not overlooked. Reading it to-day one is reminded of a train announcer in the Grand Central Station calling a departure over the longest line of travel in the world; and that, in a sense, is what it was. The program closes:

> And each and every of said cities, towns, and places is to be connected with each and every other city, town, or place in said states and country, and also by cable, and other appropriate means

[1] See Appendix.

with the rest of the known world, as may hereafter become necessary or desirable in conducting the business of this association.

Certainly there was nothing limited in these provisions; even wireless was covered by that inclusive document. There were men with vision behind it, and they had chosen Theodore Vail to lead the way. There was no delay in beginning action. Angus S. Hibbard, who as superintendent of the Wisconsin Telephone Company had obtained satisfactory service over a single wire between points one hundred and fifty miles apart, was invited East to become general superintendent, and Edward J. Hall, Jr., having demonstrated a very marked ability for telephone construction, was made general manager. Hall pushed the wire building, increased the number of circuits to Philadelphia, started one from New York up the river to Albany, and something more than a year later was headed for Buffalo and all points West, with a vast amount of shining copper wire running in every direction, linking and interlinking, in accordance with the great scheme of "one system and universal service." Just a few figures to show a little of the progress: the report of 1885, announcing the creation of the American Telephone and Telegraph Company, gives the miles of long-distance wire for January 1st of that year as thirty-five thousand six hundred and thirty-one. A year from that date the report shows an increase of over six thousand miles, and by the autumn of 1887, with the completion of the Albany line, the total of long-distance mileage had reached fifty-six thousand, an increase that year of over twelve thousand miles.

It had taken some heavy financing to accomplish this result, but it had paid its promoters, and its benefit to the public was incalculable. The "extra-territorial" lines were bringing a heavy revenue not only in themselves, but by increasing the usefulness of thousands of connecting local wires had materially improved the returns from these sources. There was still a long way to go, but even the most skeptical now believed that in time the wires would carry speech as far as Chicago, while a few—a very few—believed that they would one day whisk it across the mountains of the West, even to the Golden Gate.

It was at this point that Theodore Vail's active participation in long-distance construction came to an end. He realized, what had been brought home to him two years earlier, that he was carrying too heavy a burden. What with the company's great undertakings and a multitude of personal affairs, the load was crushing him down. He must give up something, and he could not well let go of his investments. Three years earlier he had started the copper wires westward from Boston. They had become since then a bright network growing and spreading like a living organism. He could safely leave General Manager Hall to carry on the work of propagation. He resigned September 19, 1887, and John E. Hudson, who had succeeded him as general manager of the Bell Company, was elected in his place.

Meantime, the great work of cabling the wires of New York and Brooklyn, and putting them underground, had been going on. It was a work begun none too soon. The sky along Broadway had become

well-nigh black with wires by 1885, roofs were netted with them. Not only were they unsightly, but dangerous. Winter storms covered them with sleet, and great masses of ice were likely to fall, to the serious injury of the multitudes passing below. Furthermore, storm and rust were bad for the service. From all points it became imperative that some safer disposition should be made of the wires.

As early as 1880 General Manager Vail had declared: "It may be expedient to place our entire system underground, whenever a practical method is found of accomplishing it." Meaning, of course, the city wires. A year later they were trying experiments—not very successful ones, but on the whole encouraging. The Bell Company report (March 28, 1882) says:

> The cost of replacing an extensive overhead system in a large city is so serious that it cannot be hastily decided upon; yet, if the wires can be laid underground and made to work rightly, at a cost which would not be prohibitory, it is hoped that the service will be better than now, and the cost of operating less than by overhead wires. In view of the serious objection to keeping the wires above the streets and houses the company has every inducement to hasten the solution of this problem, and must submit to considerable expenses in its experimental department for the present.

There was not at this time a single mile of operating telephone wire underground. The "experimental department" referred to above consisted of a plow combined with a railroad engine in such a way that it would cut a trench by the side of the track. This was hard on plows; five were jerked to pieces in the operation. A trench about two miles long was completed, and wires laid in it, insulated in a variety of ways.

A heavy drag was then attached to the locomotive and the soil swept back over them. The experiment was conducted between Attleborough and West Mansfield, Massachusetts, with fairly successful results.

Permission was now obtained to lay experimental cables in the streets of Boston, and during 1882 two short lines in iron pipes were put down. The result was not very promising; the Bell Company's report of 1883 says:

> Conversation is successful within short limits over these lines, but where they are used in connection with long lines—for instance, those reaching to the suburbs, the voice becomes indistinct. Unless this difficulty can be removed, the connection with points outside of Boston would be almost, if not quite, useless to those whose wires were underground.

At the end of another year, however, the report shows that in Boston, Pittsburgh, and Washington considerable progress had been made in laying underground cables—none whatever in Brooklyn, Chicago, or New York.

It was about at this point that Theodore Vail took over the supervision of the Metropolitan Company with its subterranean wire problems. In Brooklyn and New York the cry, "Put the wires underground," had become general. In New York a law was passed requiring this command to be obeyed, and a commission was appointed to see that the law was enforced.

Vail was soon on good terms with the commissioners, and began a new series of experiments to obtain better results. Engineer J. P. Davis was given the job of devising practical means for putting underground the entire metropolitan system. All sorts of containers

were tried for the cables, including iron pipe, concrete, and wooden boxes soaked with a creosote preservative. Cotton-covered wires, twisted into cables and soaked with oil, were tried with partial success. The Western Electric Company developed the Patterson cable, which consisted of cotton-wound wires, drawn into a lead pipe filled with paraffin.[1] The Patterson cable was a success, and the work of laying it went rapidly forward.

Large financing was necessary for the great undertaking, and the Empire City Subway Company was formed by the Metropolitan, not only to perform the labor, but to secure the funds. Then, as the work progressed and it became necessary to build conduits for the various other "wire using companies," another corporation, the Consolidated Telegraph and Electrical Subway Company, was organized, with T. N. Vail as its president. His double gift for credits and construction was to be given full play.

Subways or ducts of considerable size were excavated and the task of transferring the talking wires, the lighting wires, and all the other wires from the air to the earth was begun. By the end of 1885 the telephone company had one hundred and thirty-four miles laid in Brooklyn and six hundred and twenty-seven in New York City.

Vail had an office in New York City at this time, and during the two years that followed gave the underground construction his close personal atten-

[1] In most of the cables in use to-day the wires are wrapped with ordinary paper and compressed dry—that is, not treated by any sort of preparation—into a covering of lead alloy, molded directly upon them. This cable, the best thus far developed, was the result of suggestions and experiments made by a young engineer named John A. Barrett.

tion. By the end of that time there were fourteen hundred miles of underground telephone wire in Brooklyn and eleven hundred in New York. The growth after that was rapid; the end of 1889 found the Bell Company with eleven thousand miles of underground wire in New York City alone!

Vail's personal connection with the undertaking ended at about this point. Aside from this great task, business complications which we shall presently consider had brought him to the verge of a nervous collapse, making it necessary for him to retire from active affairs. His financial interest, however, continued, and the work went steadily forward. A year or two later saw not only the telephone wires underground, but those of the various other electric systems: the telegraph and light wires, the messenger-service wires, and those of the Holmes Burglar Alarm. The sky was fairly free of the black disfiguring lines. It had been a mammoth undertaking, and the Metropolitan Company directors and engineers had been responsible for its achievement. The same work had been going on in twenty other American cities, but that, in Mr. Kipling's phrase, "is another story."[1]

[1] Twenty years later (March, 1909), at the time of President Taft's inauguration, storm interference with the open wires demonstrated the need of underground cables between New York and Washington. Mr. Vail, by this time once more president of the Telephone Company, promised them. The engineers made his promise good and later extended the cables to Boston—a total distance of four hundred miles. At the present time (1921) 62 per cent of the Bell wires are underground.

Chapter XXXI: The Strenuous Middle Years

WE have given little attention to Theodore Vail's personal affairs of this period. It is proper here to mention that he had become a good deal more than a mere builder of businesses, a captain of industry; he was recognized, indeed, as a factor in Boston's social and artistic life.

His house on Walnut Avenue was crowded with beautiful things—too crowded, perhaps, for the best effect. It was really a gallery of collections, some of which could have been dispensed with, but all a part of his education. As his wealth had grown, he had surrounded himself with more and better luxuries, venturing into collections of books, prints, autograph letters, and rare and costly objects in great variety. His home had become a show place, which urgently needed weeding, but which, nevertheless, contained much that was worth while.

One of his chief comforts was that he could share it all with his parents. To see them, after their years of battle with the Iowa farm, in the midst of every luxury filled him with satisfaction and excusable pride. His old friend, Connell, of Omaha, told the present writer: "Once in later years when I visited him his parents were there, and I could not help admiring his devotion to them. They were fine people—regal in appearance."

Theodore Vail's father did not long enjoy his son's prosperity, for he died in 1885. The mother, however, lived for many years, and made her home in the big Walnut Avenue house as long as her son owned it.

Vail interested himself in refinements of a public nature, and was a heavy subscriber to libraries and museums. The boy who had broken sod in Iowa had grown to be a patron of the arts. Whatever the movement for the advancement and cultivation of the race, he had a part in it; never a small part—always an important one.

His diversions were on a scale with the rest. We have spoken of his love of driving—his variety of vehicles, his Kentucky grays which he drove four-in-hand. He had a passion for this noble sport. With Colonel and Major and their mates he took gay parties on long excursions into New Hampshire and Vermont, even to Speedwell Farms. Nothing gave him greater pleasure than to sit on the high seat in full regalia and go dashing through the hills with a happy half dozen of friends, the horn blowing—stopping at some inn or farmhouse for entertainment, or picnicking from a basket of good things by the roadside. He was always a host—he never seemed quite in place as a guest—and he loved entertainment, the entertainment he could provide, better than anything else in the world. Of the horses he drove, Colonel and Major were his favorites and would be longest remembered. They were sure of foot, and with them in the lead he had no fear of the mountain roads, far more winding and narrow and less perfectly graded

than the roads of to-day. He was a careful driver, even if he sometimes gave his passengers a thrill when he whirled them through a narrow stretch and around a high curve where a mistake would have meant disaster. He was also a considerate driver; he crowded nobody from the road, he never passed a slower team without making sure that the driver had control, that his horses would not take fright at the sudden appearance of such an impressive and even astonishing equipage.

In 1887, about the time of his resignation from the presidency of the American Telephone and Telegraph Company, when he needed the rest and healing content of the sea, he added a yacht, the *Norna*, a beautiful two-masted birdlike craft, fitted with every comfort that could make sailing something to be enjoyed—not endured as, alas, is only too often the case! The coaching parties for a time became yachting parties, and there were cruises along the New England shore and down the Sound, with beautiful drowsy afternoons that gave him the rest so urgently required. He entered into yachting as into everything else, full of enthusiasm, sailing the *Norna* to New York for the races, and with Mrs. Vail and Davis, now a boy of seventeen, lived on her for a considerable time. He kept the *Norna* for another year, and at one time Davis Vail's tutor, Charles Warren Stoddard, the poet—friend of Mark Twain, Bret Harte, and Joaquin Miller—a dreamy, irresponsible creature and a great favorite, made an extended cruise with them. Later, Stoddard sent a graceful acknowledgment:

FOUR-IN-HAND, WALNUT AVENUE

THE "NORNA," 1887

ABOARD THE "SPEEDWELL," 1912

The pleasure thou bestowest is so fit
Naught's left for one to do but echo it.
Vain were the proudest gifts, if given in jest;
A gift unto the giver giveth cheer:
If blessèd 'tis to give, thou art thrice blest.
Live then, O friend, full many a golden year!

The future would bring grander boats than the *Norna*, but none would ever be remembered more tenderly than the lovely white-winged craft and those summer days on her along the Sound. Better for Theodore Vail had he allowed these happy things to employ his spare time and funds. They could not have exhausted his generous income of that day, and they would have saved him a world of anxiety that was undermining even *his* rugged constitution. But this was impossible—he was never able to simplify his affairs. He must heap them higher and higher, adding always new and more exciting adventures. He must always drive four-in-hand.

In an earlier chapter we have mentioned some of the variegated investments of his new prosperity: the Colorado mine, a collection of patent rights, the storage battery known as the Accumulator, etc. By the time he resigned the management of the Bell Company there could hardly have been less than a score of these picturesque but monotonously unprofitable undertakings, besides all his telephone companies in the various corners of the world.

Creating stock companies was his hobby. He was always changing the names of old ones and organizing new ones. He created corporations as a farmer makes hens' nests, and in some of them he found golden eggs. These were the telephone companies; the others never

by any chance returned a dividend. But that is not quite true; an ostrich farm in California, into which he and his friends put a considerable fortune, returned at last a real egg, a dividend of a single ostrich egg, from which the assembled stockholders made an omelet and good-naturedly wrote off the rest of their investment. Vail himself was unable to be present, so as a special favor they sent him the shell.

By 1886 Theodore Vail had "written off" a good many doubtful investments, but there were still enough of them left to swallow up any lazy surplus which he thought should be occupied in advancing the progress of the world. Then, one day, his old friend Samuel M. Bryan, who had returned from Japan to seek a real fortune, presented for his consideration the Prall Central Heating System. It was here that the real music began—fresh investment to the tune of twenty thousand dollars or so a month, during a period of no less than three years.

The Prall System contemplated the heating of cities and towns through the distribution of superheated water, supplied like gas from a central plant. It was just the sort of idea to appeal to Theodore Vail. It meant economy, it meant human progress, it meant the revolutionizing of one of the world's most important necessaries, the heat supply—if it worked.

He believed it would work. He was still deep in his telephone undertakings, stringing the long wires and building the conduits, but he could not let this go by. In some notes he made many years later he wrote:

I had the utmost confidence in the thing, and my study of the theory of the scheme made me place great faith in the outcome. Furthermore, a small demonstration plant had been erected and was in operation in Washington, and a larger one in Brooklyn.

He did not entirely accept these evidences as conclusive. He engaged a practical engineer—the best, as he believed, to be found—the Chief Engineer of the United States Navy—and another, from Brooklyn, to make careful reports. Those reports still exist, and reading them to-day one might be led to believe that the world was only waiting for the Prall Superheated Water System to make it a paradise, and that the climate of Heaven itself could be improved by its adoption. Quotation is hardly necessary; the last sentence of the naval engineer's report: "Its safety, practicability, and efficiency admit of no doubt," being ample for the purposes of this book.

Their testimony was also sufficient for Theodore Vail. Even the report made a month or two later by the City Engineer of Boston, practically contradicting their every statement, declaring the proposed introduction of hot-water mains into the city's streets, as inadvisable, and even "extremely dangerous to the public, as well as unremunerative to the stockholders," was brushed aside. Which would hardly have been the case had Vail been acting merely as an official for some great corporation. He had a characteristic not uncommon to big men—that of supervising with great care and prudence the affairs of others, while venturing even to the point of rashness with his own. He was supplying the bulk of the money for the heating system, and the adverse report was not permitted to count.

He was supplying *all* of the funds eventually, for as soon as it became known that a great new system for heating Boston and other cities was backed by Theodore N. Vail of telephone fame, there developed a boom in "National" superheated water, and even before a pipe was laid two hundred dollars a share was offered for the stock. At this point Bryan wanted to sell out, but as the partners had contracted to sell only to each other he could not do so without Vail's consent. The latter, knowing that the price offered was the result of his association with the enterprise, declined to sell.

The price was based largely on belief in me, so how could I? [he wrote in the notes already mentioned]. In the end I bought out my partner at an agreed price, which left me with the brunt of the whole thing.

It had happened before—many times.

We need not go deeply into the details of this venture. The city of Boston granted the use of the streets; the plant was completed, two miles of pipes were laid. That sounds short and easy, but the facts were neither. In the course of construction it was discovered that the plant was costing fully double the estimated amount—that outside capital must be secured. Lester Leland was treasurer of the Boston Heating Company (the local name) and by his statement of October 26, 1887, we find that Theodore N. Vail had already paid one hundred and fifteen thousand dollars into the treasury, to which he added fully another hundred thousand before the end of the year. The capital stock, originally half a million, was now increased to a million and a quarter, and blocks of it

sold both in England and in America; Vail made a trip to London to promote the sales there. This was during the spring of 1888.

The heavy expense continued, but matters seemed to be going so prosperously by the end of the year that Vail thought it safe to join Mrs. Vail and Davis in Venice for a winter's sojourn, the Boston winter being regarded as too severe for his uncertain health. They occupied a floor in an old palace on the Grand Canal, an ideal location.

His period of rest was all too short. By January it developed that the Boston heating situation was far from satisfactory. Its finances needed attention and there began to be ugly rumors as to faulty construction. There was plenty of heat for the subscribers, who willingly enough wrote glowing testimonials, but the plant itself, now in its second winter, developed grave defects. Water is a solid substance; boilers and joints that would have taken care of superheated steam could not be made to hold superheated water. Something was always giving way—always blowing out. The pipes in the streets were said to be a menace to the public safety.

Vail hurried home from Europe and acting under the advice of his engineers made a desperate effort to correct these faults. It would require another two hundred thousand dollars, they assured him, to make his investment a success—"to put it over the hill," as they phrased it. Vail made a trip to England in April to see what could be done there with an issue of bonds. He found that very little could be done. The English investors who had bought the stock

resented the idea of immediately being called upon to provide capital to carry on the enterprise. In the end he privately borrowed the sum required, pledging his interest in the company and giving his personal note besides. To Col. Albert A. Pope, a stockholder, he wrote:

> This will take us out of the soup, or put *me* into it—one or the other.

The alternative prevailed. The money was spent, and by the autumn of 1889 the plant was shut down, a confessed failure. In his later memoranda Vail wrote:

> The only thing to do was to clear up the records. By the time I had met my obligations, and paid back some large sums of money to those to whom I was directly responsible for buying the stock, I had only a few "cats and dogs" left, and was badly broken in health. While we were at the height of the heating boom I had a cable offer of two hundred dollars a share for all my stock. I was strongly tempted to accept, but did not.

He was not entirely without means; he was still associated in the subway building and had a considerable return from one or two other sources. He felt, however, that he could no longer support the big Boston establishment. He had sold his yacht, the *Norna*, a year earlier when the demand for funds had become urgent. He now decided to dismantle and sell the Walnut Avenue house. He placed a number of his most valuable pictures on sale and shipped several carloads of the handsome furnishings to the Vermont farm, which, for the sake of both health and economy, he now determined to make his home.

His misfortunes were not yet ended. Of the various smaller companies he had financed, one after another came to an end. For the largest and most important of these, the Accumulator Company, he still had hopes. It was one night at dinner, when he was about ready

to leave for Vermont, that his butler, William Johnson, handed him a telegram announcing the fact that the Accumulator had followed the rest. Mrs. Vail was in Newark; he was dining alone in the dismantled house; he only laughed.

"Well, Johnson," he said, "the Accumulator is busted. Where is the next crash coming from? Bring a bottle of champagne."

The "next crash" was the announcement, a day or two later, that the firm to whom he had consigned his pictures—about seventy thousand dollars' worth—had made a bad failure; he would receive little or nothing for his property. With these crushing things coming one upon the other, there must have been moments when he pictured himself like Edgar Poe's

> unhappy master
> Whom unmerciful disaster followed fast and followed faster,
> Till his song one burden bore.

Pursued, as it seemed, by some relentless demon of circumstance, he may well enough have likened himself to Poe's somber creation and echoed the refrain, "Nevermore!" concerning certain of his adventures. Mark Twain, who at this very moment was wasting a fortune on a typesetting machine, received, just following his financial collapse, a letter from a man who had written a book calculated to assist inventors, asking his indorsement. Mark Twain replied:

DEAR SIR:

I have, as you say, been interested in patents and patentees. If your book tells how to exterminate inventors send me nine editions. Send them by express.

Very truly yours,

14 S. L. CLEMENS.

Theodore Vail was in a position to appreciate that letter[1] and, like Mark Twain, may have seen the humor of his plight. Certainly he was not crushed, not defeated. His fortune was badly crippled, his health damaged. No matter, he would get back his health and make a new start. He was less than forty-five, a young man, and there was plenty to be done in the world. His debts were paid and he still had the farm; also his four-in-hand team of Kentucky grays, Colonel, Major, and the others.

It was beautiful September weather when the Vails left the Walnut Avenue home for Vermont. They did not go by rail, or alone. When the moment came for departure the grays were brought to the door. Mounting the seat, Theodore Vail grasped the reins, and with a merry party drove away, four-in-hand, for Speedwell Farms.

The Lyndonville paper records their arrival on September 20th (1889), and that they drove the last day from Fabyan's. It adds that a builder has been employed to erect a thirty-foot addition to the house, and that Mr. Vail is negotiating for additional land. Furthermore, that he would be at the fair during the coming week with thoroughbred stock and blooded horses. Certainly this does not suggest a person in reduced circumstances. But then he had never been that—never could be—not with his temperament.

[1] It is a rather curious fact that Vail himself, somewhat later, became interested in the stock of a typesetting machine, the Mergenthaler, but this was a success.

Chapter XXXII: Quiet Years

AND now, having done so badly by him, and seeing his still unbroken spirit, fate would seem to have relented somewhat, for—surprise of surprises—the old Colorado mine, the Pelican and Dives, long since given up as hopeless, all at once began to pay. A new and richer vein had been developed, and money came tumbling in. Once, a few years earlier, he had shown his sister Mary a great bundle of the stock certificates, and jokingly offered to sell them to her at something like ten cents a share. Now they were all valuable again, worth not what they had cost, perhaps, but a very considerable sum indeed, yielding handsome dividends. His sister Mary was again present when the first of these returns arrived. He had converted the check into gold, and entered, laughing and jingling his pockets like the boy that he was.

"Remember those old mining shares, Mary," he said, "that I tried to sell you? Well, they are going to make us all rich again."

Returns from the mining shares and from the Consolidated Subway Company, of which he was still president, would seem to have been quite ample for the life at Speedwell Farms, and to provide for a variety of additions to the house. Mrs. Vail had a handsome drawing-room carpet, brought from the Walnut Avenue home, and they built that year a fine

large room scaled to fit it. The original Bigelow house had well-nigh disappeared. Yet in all the changes made in it, the new owner was careful never to destroy it entirely, but always to preserve its front door and knocker, its entrance hall and its quaint, old-fashioned stairway. No one ever had a deeper regard than Theodore Vail for family tradition or for human association with inanimate things. He liked to feel that he was carrying on the Bigelow homestead, that its ancient front-door welcome remained the same. The past was always beautiful to him, always a part of the present, as far as he could make it so.

He began now to feel that Speedwell Farms was to be his permanent home—that with his uncertain health, and an income large enough for the comparatively modest life there, he would live retired from the activities and disorders in which for a dozen years or more he had been so busily concerned. Possibly he felt that his days were not to be very many; that he would pass them as peacefully as might be, in some measure, at least, affording benefits to others. He subscribed a considerable sum for the improvement of the little brick church of Parsippany (his mother's home), and the adjoining burial ground there, where he hoped one day to lie. He also gave liberally to a variety of Lyndon[1] institutions and worthy causes.

His health improved with the open-air life and freedom from heavy anxiety, but not so rapidly as he had hoped. The strain had been too great to be

[1] To avoid confusion in the reader's mind it may be stated here that the town was called Lyndon. Lyndon Corners, Lyndonville and Lyndon Center were connecting villages in the town of Lyndon.

repaired immediately. He decided that he was not yet equal to another Vermont winter. Leaving his business affairs in charge of Lester Leland, he sailed with Mrs. Vail for the Mediterranean to spend the winter visiting the Italian cities. It was their custom to remain for several weeks in each, making driving trips through the surrounding country, accompanied by friends.

They continued their journey into Sicily, where the driving tours became even more frequent and longer, lasting sometimes for a day or two, with lodgings in curious wayside hostelries. They traveled northward as the spring came, to Germany and France, and to England.

Autumn found them in Paris, where they spent the winter enjoying the gayeties, and giving considerable time to the study of the French language. They spent that summer in the Jersey Islands, and after a second winter in Paris returned to Speedwell Farms, Vail's health greatly improved, if not entirely restored, by his two and a half years of rest. Certainly he no longer looked like an invalid. He had added a good many pounds of flesh, though, being tall, he carried it well. He gave the impression of a man of great mental resource and physical power.

There now began for Theodore Vail the life of a gentleman farmer, a country squire, combined with all the enterprise and activity expended in former years on big business ventures. He began immediately upon the house—cut it in two in the middle and built ambitiously in the space between. He did not employ an architect, but drew his own plans and

superintended the work. Changes were made rapidly. A friend of that time remembers being twice entertained at the house, with an interval of about two weeks between his visits. On the first occasion he entered on the south side, but arriving next time found the south entrance had disappeared. All that side had been converted into a lawn, and the entrance was now from the north. Most of that summer Johnson, the butler, walked a plank that led from the dining room to the detached kitchen—a performance that required a certain amount of care as well as skill. An extensive greenhouse and a steam-heating plant were added at this time.

Vail had a desire for more land. He bought the Harris farm adjoining, and three others, which gave him now about a thousand acres, a very respectable estate. He associated himself with local affairs—with the Lyndon Institute, of which he became a trustee; with the Passumpsic Railroad, in which he became a director. He bought shares in the banks of both St. Johnsbury and Lyndonville, in time becoming chief stockholder and president of the latter institution. Believing a better market could be created for dairy products, he joined with Iphus Hall, Elmer A. Darling and W. I. Powers in establishing the Lyndonville Creamery, a business which became very prosperous as the years passed.

He decided to reconstruct the roads around Speedwell Farms and bought a full line of machinery—all the necessary outfit for road building. An expert was engaged to come up from New York, but did not prove a success. He seemed a good deal more con-

cerned in telling of the roads he had built elsewhere than in the ones proposed for Speedwell Farms. Vail, with some abruptness, presently announced that it was the latter that concerned him, that in roads built in Bermuda or elsewhere he was not much interested. The expert tendered his resignation, which was accepted on the spot. When he had gone Vail turned to his farm superintendent.

"Well, Hubbard," he said, "what are we going to do now?"

Hubbard, a resourceful Yankee, replied:

"Why, Mr. Vail, if that fellow had dropped dead what would we have done then? I guess we can get through this job somehow."

The work was turned over to Hubbard, who built about three miles of macadam road, still to-day hard and beautiful, which Vail presented to the town along with the machinery. Hubbard had never been a farmer or a road builder until that year. He was a mechanic and had been engaged to set up an engine and to do some building. When he had finished Vail sent for him and asked him to become superintendent of the place. Hubbard protested that he had no experience in farming, but he was urged to give it a trial. No mention was made of wages, neither then nor at any time during the twenty-seven years that he retained his position. Hubbard was resolute, industrious, and had New England adaptability—a man of few words, loyal and resourceful. His case furnishes an excellent example of Theodore Vail's gift for choosing men, and his intuitive understanding of the individual. During the twenty-seven years

of Hubbard's stay his employer never paid him a compliment, but also he never found fault with him. He advanced his salary regularly, and without the exchange of many words there was perfect understanding.

It was natural that Theodore Vail should acquire honor in his community, and only once did it happen that he encountered what seemed for the moment ingratitude on the part of those he was trying to serve. A group of Lyndonville residents conceived the idea of establishing a local telephone company. It probably never occurred to them, especially as he was no longer actively associated with the Bell Company, that he would be disturbed by this movement. But the telephone business had been his creation, and that his own townsmen, for whom he was giving his best efforts, should repudiate his company grieved him. When he was first told of it tears came to his eyes, and he said rather mournfully that he couldn't see why they had done it. As a matter of fact, they couldn't, either, when they came to consider the matter more carefully, and the project was quickly abandoned.

During their first years of residence at Speedwell Farms the Vails had not mingled much with the social life of the neighborhood. Now, however, all was changed. Parties and clambakes became the order of the day, and the townspeople, young and old, began to regard the house on the hill as the natural assembling place for entertainment and festivities of every sort. At the end of harvest there was a grand clambake for the haymakers, as many as sixty men and their families; there was another for the Lyndonville Free-

masons and their families—in fact, any opportunity was an excuse for a clambake, and there were frequent afternoon teas for the ladies, and card parties, and meetings of the Shakespeare Club, and special entertainments for the ministers, and there were also children's parties, with games and refreshments on the lawn. Lyndon had been just an ordinary Vermont town, rather sleepy as a whole. The coming of the Vail household had given it a new interest.

Eighteen hundred and ninety-three was the year of the Chicago World's Fair, but too much was going on at Speedwell for the Vails to attend. The house improvements were not yet completed, and there was much to be done before cold weather. Work proceeded steadily, and everything was finished and settled in time for the holiday festivities—the first real Christmas celebration held at Speedwell Farms. Altogether that was a happy winter, but saddened at the end by the death of Theodore Vail's mother. Since the closing of the Walnut Avenue house she had made her home in Flatbush with her daughter Mary, by this time the wife of Dr. William S. Applegate. In spite of her years her mind had remained fresh and clear, and her fine inspiring letters had continued until near the end. The return of her son to Speedwell Farms and the new construction there had interested her deeply. Once she wrote:

> I have been thinking of you in your home and how busy you have been, getting ready for winter, and how relieved, now that all is complete, or nearly so, and do hope you will enjoy the ease it will give, the fruition, as it were, of your life's wishes—a farm with its cares and responsibilities and enough to make life worth living.

I trust you may all live long to enjoy it and be as happy as you have made others, in placing them beyond want. I cannot thank you as you deserve.

Phebe Vail was nearly eighty years old, but her writing was clear, the characters smoothly formed. It was one of her last letters. Three months later, February 3, 1894, she died at her daughter's home, having prepared a few days before a carefully written expression of her wishes—considerate, clear of purpose, and orderly to the last.

Chapter XXXIII: Argentine Ventures

AN item in the local paper, the Lyndon *Union*, during April, 1894, tells us that there were at this time fifty-three horses, a hundred head of cattle, a hundred and eighteen sheep, and twenty-seven hogs, "everything blooded and of the best kind," at Speedwell Farms, from which it is clear that as a gentleman farmer, a country squire, Theodore Vail was pursuing his customary policy of expansion. If at this time he had any plans for the future not connected with Speedwell, the fact was not remembered in later years. He was interested in a few enterprises besides the Colorado mine, but they were of slight importance as compared with his agricultural plans. Certainly he did not suspect that in the very moment of his deepest satisfaction with his farm employments, business opportunity was about to knock at his door, and with no uncertain sound.

Many guests came to Speedwell, and among those of that summer (1894) was Walter G. Davis, an American astronomer in charge of the weather bureau of Cordoba, in the Argentine Republic. Davis was originally from Boston, his wife a daughter of Josiah Quincy. He was a man of probity, culture, and convincing speech.

Vail had been always, from boyhood, interested in South America. Stories of the exploration of unknown rivers, of the illimitable waving pampas, the vast

herds of native cattle, the snow-capped Andes, had stimulated his imagination and fascinated him. He had read whatever he could get hold of on the subject, and early in his telephone career had established companies in Brazil, on the West Coast, and in the Argentine, but had never found time to visit these countries. He listened eagerly, therefore, when Davis told him of Cordoba, called the Athens of the Argentine—its oldest city, with Moorish architecture, plazas, and narrow streets, like a city of ancient Spain. He wanted to go there, and when Davis told him that at Cordoba was one of the greatest opportunities for electrical development by water power, he agreed almost on the spot to go down during the winter and engage in this great new enterprise.

Davis had an option on the water and electrical concessions for Cordoba, and it had been part of his errand in the States to find capital. Vail agreed to create a company to provide the necessary funds, and thus suddenly, after four years of retirement, found himself about to launch once more into affairs where stock and bond subscriptions, franchises, charters, and civil engineering would be the important facts of life. Beyond doubt he loved such things; besides, he was not yet fifty—too young for a Vermont farm, of whatever size, to engage his faculties.

There was no delay in his preparations. He secured an experienced engineer, James W. McCrosky, and started him for South America, to look over the situation and begin the preliminaries. He sailed himself in February, by way of England, where he hoped to make some arrangements as to funds.

Between New York and London he fell in with an Englishman, by the name of Charles R. Thursby, for whom he conceived a great liking. Thursby had been in South America, engaged in a number of enterprises, and was interested in a plan for electrifying street railways. By the time they reached England Vail himself was strongly inclined to a venture in that direction, and, curiously enough, had hardly landed before he fell in with an American promoter who had an option on a horse railway, called La Capital, in Buenos Aires. The American apparently had no money himself, but only a promise of credit. He did not seem to have much to offer, and presently disappeared.

A few weeks later Vail and Thursby sailed for Buenos Aires by the same vessel. They touched at Lisbon, where who should step aboard but the American with the street-railway option, also bound for South America. They had plenty of leisure now to talk matters over, and by the time they reached Buenos Aires Vail had conditionally pledged himself to join in taking over and electrifying the La Capital tram line. He was thus more than half committed to at least two enterprises, both requiring capital in unknown amounts, and neither of which he had examined at close range. One is always impressed at the seemingly childlike trust which Theodore Vail placed in men.

His first impressions of South America were not very encouraging. Arriving in Buenos Aires, he found the street railway dignified by the name of La Capital a rickety, run-down affair of boom construction, projected and built mainly for the purpose of selling its

stock in England, where Argentine prosperity had been promoted well-nigh into its grave. McCrosky had arrived, and, deferring a more critical investigation until their return, Vail and his engineer journeyed up to Cordoba, between four and five hundred miles inland. The trip gave Theodore Vail his first sight of those great stretches of level pampas so familiar to him in the books. He was deeply impressed by their billowy levels and far-fading distances.

He found Cordoba, as Mr. Davis had described it, a venerable town of Moorish architecture, with plazas and narrow streets, a true offspring of the Old World. The city itself was built at the foot of a range of cliffs, out of which came the Rio Primero that was to furnish the water power which would supply electricity to Cordoba.

The national boom had reached Cordoba, and bonds for all sorts of purposes had been sold in the English market, which for a time would absorb anything that emanated from the Argentine. Many projects had been started; a new city called the "upper town" had been laid out on the cliff, with every sort of improvement; a big irrigating dam had been built to water the Cordoba plains.

The reaction that always follows a boom had set in, and there was a feeling of general depression in consequence. The Primero provided a flow of water of about fifteen cubic meters per second. This would undoubtedly develop many thousand electrical horsepower, but to harness it at a great cost and make it a paying business venture by supplying that ancient city who, having done her brief turn in the financial

skirt dance, was settling back to primitive usages, was another matter. Vail and his engineer, accompanied by Davis, ascended the cliffs and looked out over the city from the tableland above. It was a delightful prospect, but the financial outlook seemed far from promising. Turning to Davis, Vail said:

"I'll do it because I promised to, but you can no more get money out of that arid valley and barren town than from a desert."

Davis was deeply depressed. He replied:

"I wish you would write to [naming the man who had introduced them] and tell him that I lied about everything."

Vail answered:

"It is not a question of fact—it is a question of judgment. No doubt the future will make good all your promises. The only question is whether it will take care of them fast enough to warrant the investment."

He presently warmed to a better feeling; they journeyed by narrow-gauge railway up the river to the proposed site of the hydro-electric plant. This was a delightful trip—the cool, cañonlike valley of the river, between cliffs from one to two thousand feet in height; the early twilight, because of the sun behind the hills, changing to sudden darkness as in the tropics; the great flaming lightning bugs, three or four of which under a glass made light enough to read by—it was all impressive and fascinating, just the sort of thing to appeal to Theodore Vail's romantic nature. The site for the power plant completed his conquest; here was a chance for great constructive development.

Whatever views he may have held after that as to the business possibilities of the venture, he never again lost enthusiasm. Long afterward he wrote:

> There was never anything that quite took hold of my imagination as Cordoba did. We built a long house, the lower part of which was arranged for the manager of the station and the upper part for the use of those who came from Cordoba to visit the place. We kept a very good native cook there, and had room for a few guests. When we got the dynamo in place the sound of it seemed a fitting accompaniment to the scenery. I never hear to-day the hum of an electrical machine that my mind doesn't instantly revert to those long beautiful nights, with a stillness unbroken except by the purr of the dynamo from the station.
>
> The building of the Cordoba power plant took us about two years, and it was a success from the start. The spot where the first plant was located we called Casa Bamba, and it was always one of my great enjoyments while in South America to run up to Cordoba for a few days' picnic at Casa Bamba.

The story of the financing and construction of the Cordoba work would be of slight interest to the reader. It was all interlinked with electrical undertakings in Buenos Aires, for Vail, after brief consideration, decided to protect the La Capital option. He thought the Argentine metropolis a promising place for street-railway expansion. It had grown into a beautiful modern city, lacking only harbor and dock development and improved street transportation. There was not a mile of electrical railway in Buenos Aires, and the antiquated horse-car service could by no means provide for the traffic. Latin-Americans are much given to open-air recreation; whoever can afford it drives out every pleasant afternoon, while the others take their families on tramline excursions to one of the suburbs or parks.

Vail agreed to join in the rehabilitation of La Capital, and we are not surprised to learn that almost immediately he had the rickety little road entirely on his hands, had invested his cash capital, and pledged himself for a vastly larger sum. He made Thursby superintendent, and with McCrosky as constructing engineer of both his enterprises he was able to give most of his own time to getting material and machinery, and to raising money with which to pay for these important things. The money problem proved difficult. Notwithstanding his failure of five years earlier with the superheated water, financiers had an abiding faith in Vail, but many fortunes had been lost, as well as made, in the Argentine, and capital has a way of being timid of investments in a country that has known a boom.

He was not discouraged by these conditions. In fact, he was stimulated by them. With two big enterprises to raise money for in South America, and an expanding agricultural plant in Vermont to be kept going, Theodore Vail was quite in his element. The needed funds were raised. Among Vail's staunch friends of this period was Alfred B. Scott, of Scott's Emulsion fame, who not only took stock in the tramline project, but advanced large sums in critical moments. Robert Fleming of London also gave important financial support. Bonds and stocks were sold both in England and in Holland; and of course the scheme expanded. Other lines, one after another, a total of about one hundred and twenty miles, were taken in and duly electrified and consolidated, and a variety of corporations with a variety of names were

formed and reformed and linked together in the usual Vail fashion. He liked to play with such things. Somewhere along the years he had learned solitaire—the big double kind; it became his diversion. The game required a special kind of skill, and one somehow thinks of his manipulation of corporate companies as a huge game of solitaire in which he worked gayly engraved bonds and certificates around and around toward a final and successful answer.

The answer was successful in the South American game. Not only did Cordoba yield a profitable return, but La Capital and its associated lines paid generously. Within a comparatively brief time Theodore Vail's South American development had set him more firmly than ever on his financial feet and given him new prestige in the industrial world.

He had not remained steadily in Buenos Aires during this period, but had traveled back and forth many times. Indeed, reading the letters, one has the feeling that he was almost constantly on the way from America to England, and from England to the Argentine. Which was not quite true, however. He arranged his affairs as far as possible so that he might spend the winter months (summer below the equator) in Buenos Aires, and the northern summer at Speedwell Farms. He had a New York office, in the competent hands of H. R. Parrish and H. N. Tannenbaum, and with McCrosky and Thursby in Buenos Aires he could safely be at either end of the line.

Chapter XXXIV: Speedwell in Its Glory

GREAT things meantime had been happening at Speedwell Farms. The farm itself and the house had grown almost beyond recognition. The stock on it had multiplied and there were new breeds of everything, including a herd of blooded Welsh ponies, which became favorites of Speedwell, because the children who came there loved them, and their owner was always ready to give one or a pair of them to his small visitors. An inventory made during this period lists seventy-four horses, a hundred and twenty cattle, four hundred sheep, seventeen vehicles of various kinds, and ten sleighs. These are only a few items, but they give a general idea of the extent of the "little farm" which so long ago Theodore Vail had planned.

His acres had increased accordingly. It was his impulse to buy any land that joined him, and the farmer along his boundaries who wished to sell was sure of a customer. He never bargained in making his purchases. It was his habit to say, "Tell me your price, and if I want it I will say so." He generally wanted it, and it seemed for a time as if he would keep on until his lands overspread the county.

He could do nothing in a small way. However limited the beginning, it was bound to grow and expand to great proportions. He might start to build a squirrel cage, but it would end by becoming a menag-

erie. The house itself had been taken apart and reconstructed, time and again, getting steadily larger until it had become, with its tower, connecting buildings, and spacious greenhouses, an imposing structure that crowned the hilltop. He was constantly making improvements in it that involved removing partitions or cutting new doors. These changes were so frequent that his son, Davis Vail, once said to him:

"Daddy, what you need is a Japanese house with paper walls, so that you can take a pair of scissors and cut a door anywhere, then paste it up again if you don't like it."

The summers of his later South American prosperity were periods of royal entertainment at the farm. Parties from Boston and New York were always coming up; elaborate driving excursions were of daily occurrence. The Vail coach carried nine or more and there was another for extras. At the end of a happy day among the hills they would come dashing up to the house at full gallop, the horns blowing, and swing with a dramatic turn into the drive. Johnson, the butler, had carte blanche in the matter of food. Returning from one of the long drives the host was likely to say:

"What have you got for us to-night, Johnson, a cold roast?"

Whereupon Johnson would proudly take him to the refrigerator and show him lobsters and a variety of delicacies, sent up from Boston, and earn compliments for his forethought. Sometimes the parties were gone two days or more, to Willoughby Lake, or to Victory,

which was a hunters' camp beyond Burke Mountain, or to a fish pond at the Summit.

On one occasion a guest caught a big trout, and after dinner it was brought in and exhibited. Guesses were made as to its weight, and bets were laid. Vail's guess was much larger than any of the others, and when Johnson brought in the scales and weighed the trout it was found that he had won. He then ordered Johnson to bring a bowl and to hold the fish tail-end up; he did so and a pound of shot ran out into the bowl. Vail returned the wagers, gravely advising his company never to bet on the other man's game.

His birthdays became distinguished occasions. He always managed to be home in July, and on the momentous 16th his neighbors brought their best offerings of fruits, fish, frogs, chickens, whatever they could get that was choicest in the way of food, with a variety of other remembrances. Sometimes his guests indulged in poetry, of which the following is a sufficient sample:

There was once a man who came from the West,
  He did, he did;
To like Vermont he tried his best,
  He did, he did.
But with a sanctimonious face
Would once in a while get off his base,
And everlastingly cuss the place,
  Sing tra, la, la la, la, la.

He tried for a month to plant spring seeds,
  He did, he did;
But the snow was deep and 'twas worse than weeds,
  It was, it was.

And now he's disgusted with everything,
And for Waterloo would like to take wing,
But in Lyndonville must have his fling,
Sing tra, la, la la, la, la.

All of which pleased him mightily. Musical entertainments were often given on these and other occasions, with professional singers and instrumental performers, who came up from Boston. At such times crowds from the village and country round filled the rooms and overflowed on the verandas and lawns. The children's parties mentioned in an earlier chapter had become larger and more frequent. The Christmas parties especially were very elaborate affairs, with the great house decorated above and below, festooned with evergreen and holly, and there were games, dancing, and feasting—old-fashioned Christmas merry-making of long remembrance. Vail himself was not always home for the holiday, during the period of his South American adventures, but Mrs. Vail and members of the family were there, and the Christmas parties did not fail.

In all seasons the children were invited to Speedwell, at least once a month. Teams were sent for them in all directions, and in summer their bright dresses made the wide lawns like flower gardens. Mrs. Vail had become the "Lady Bountiful" of the neighborhood, and was constantly driving with flowers, delicacies, and other gifts to the sick and needy, whatever the distance or the weather. She was greatly beloved by all, and the fact that her health had become impaired established her more deeply in their affections.

Davis Vail was generally at Speedwell Farms during

the summer. He was now a young man of thirty or so, handsome and capable, with a host of friends. Davis had graduated from Harvard, taken the law course, and been admitted to the bar. His health, never good since his early days at college, where he had overtrained on the boat crew and football team, prevented his active engagement in business affairs. His life was to be short, and at this period the shadow of ill health already darkened his days.

Speedwell Farms came to be regarded not only by the needy but by a host of its friends in prosperity as a distributing point for many of the good things of life. Every year in their proper season baskets of fruit, hothouse grapes, apricots, nectarines, melons, were expressed in all directions, while during the early spring boxes of maple sugar and cans of syrup from the Speedwell groves found their way even as far as England. A still-existing list of one season's sugar distribution shows that one hundred and thirty-five boxes were sent out that year. Something of the product of Speedwell Farms was sold, but a great deal more was given away. Vail sometimes claimed that his dairy was profitable, but when one glances over a summary of the farm expenses and credits one is troubled with doubts. There is a story of a gentleman farmer who said to his guests:

"Will you have champagne or milk? Don't hesitate; they cost just the same."

Theodore Vail might easily have been that man. If he was, the milk was sufficiently costly, for the great cellars at Speedwell Farms were filled with the finest vintages that money could buy.

Chapter XXXV: Years of Shadow

THERE now came to Theodore Vail a period of mingled sadness and triumph—of business success and personal misfortune. His South American affairs were approaching a climax of prosperity; his wealth was again abundant; he had acquired once more large holdings in the telephone company, and as a director on its board had a voice in shaping its policies.

Certainly these were gratifying things, but with it all there grew an ever-darkening cloud of illness upon his home. Mrs. Vail's condition at times seemed serious; then would come a period during which she was much better and it was believed her life might be prolonged for many years. When, toward the end of 1904, there came a business call for him in England her husband consulted her physician as to the advisability of going. Doctor Wynkoop of New York wrote that, while he could give no positive assurance as to the future, unless complications developed he (Vail) could "safely be away during the next six months."

He sailed without serious misgivings. Mrs. Vail, who at this time seemed better than usual, remained at Speedwell Farms, which she preferred to all other places. She had been advised not to allow herself to become chilled, but her fondness for the winter out-of-doors took her often into the severe weather. She died suddenly, February 3, 1905. Her husband,

who had received no warning of the approaching change, arrived from England, a little more than a week later. Services were held at Speedwell Farms by their old pastor, Albert H. Plumb, of the Walnut Avenue Congregational Church. She was buried in the lot bought at Parsippany, the home of her people.

Less than two years after the death of Emma Vail, her only child, Davis Vail, followed her; and again fate arranged that Theodore Vail should be absent when the end came. Advised by cable in England that his son had been stricken by typhoid, he sailed immediately, but was still on the water when Davis died, December 20, 1906. He was now alone in the world, so far as his own immediate family was concerned. His household consisted of his sister, Louise Brainard, a widow, and his niece, Katherine Vail—"Kate," as she was called.[1]

Following the death of his wife and son there arrived one of those curious dividing periods in Theodore Vail's life—intervals of uncertainty, occurring from twenty to twenty-five years apart. The first of these was the two years in Iowa, ending when he resolutely set out for Pinebluff in 1868. The second was the period of travel in Europe (1890–93), closing with the beginning of his South American undertaking. Now had come a third interval when he seemed to be adrift, without plans for the future.

The South American work no longer required his supervision; the farm was not enough to command his energies. He considered politics—one of his earlier ambitions. It had been suggested that he

[1] Daughter of Alonzo Vail, who had died in 1904.

become a senator from Vermont, perhaps governor of the state. The idea did not greatly appeal to him; he had a poor regard for political methods. Five years before, in Paris, a fortune teller had assured him that his greatest work would come after he was sixty, a prophecy that had been repeated by a fortune teller in London. He had taken little stock in these predictions, and there seemed slight promise now of their fulfillment. Certainly he did not dream that his destiny was about to be realized.

Chapter XXXVI: The Return to Power

THE year 1907 was an eventful one in the business world. For many it was a disastrous year. The early part of the new century had been a period of inflation and the natural result was coming due. Apparently not many foresaw trouble, and early in the year—in March, when flotations, new and old, were still riding at the top of the tide—a Belgian company in Buenos Aires proposed to buy out the La Capital interests. Whatever Vail thought of the future, his immediate judgment was to sell. He received something more than three million dollars for his holdings, and those who had joined their fortunes with his profited accordingly. Any prestige that he had lost by his earlier failures came back now increased many fold. As a builder and as a financier of international connections he was vindicated. To a friend, Thomas B. Wells, he once declared:

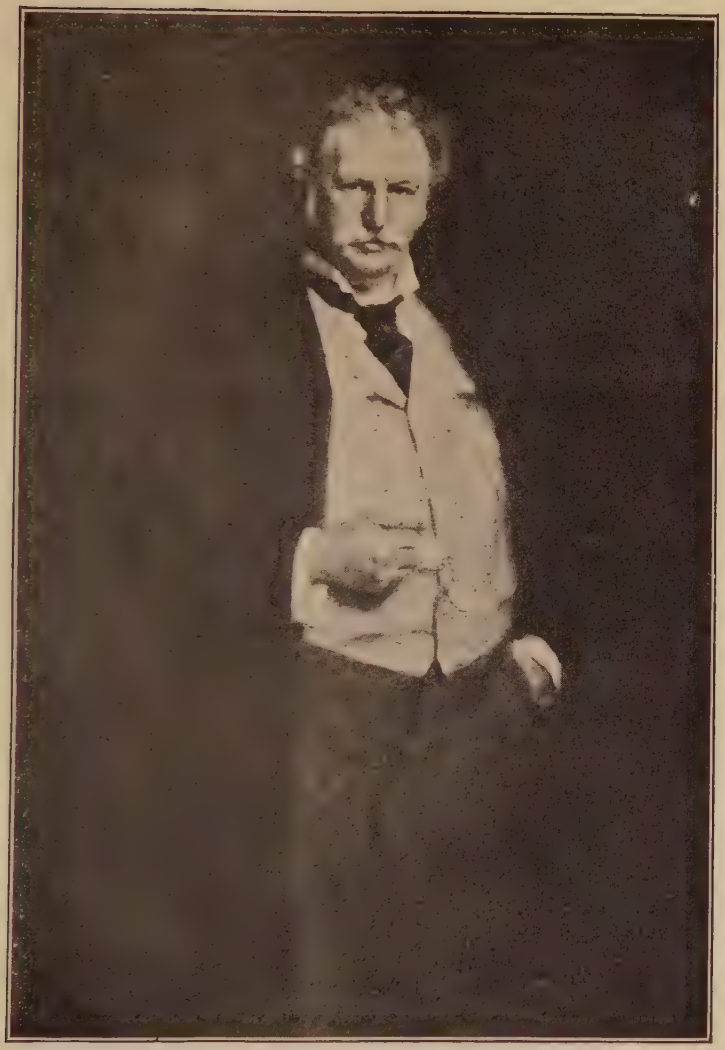
"I never really started out to make money but once; that was the time I went to South America. I knew that I had to have money, and I went there after it"—a statement made sincerely enough, no doubt, but which we need not accept at its face value. The financial feature alone would hardly have tempted him.

The sale of his South American interests at this particular time furnished additional evidence of Theodore Vail's foresight. The financial waters, however

placid on the surface, were beginning to be troubled below. Men like J. Pierpont Morgan and George F. Baker, who directed the deeper currents of Wall Street, became watchful. Great corporations that had ventured too daringly were required to take protective measures. Among these the telephone company was a notable example.

It is necessary here to review briefly the history of this company during the twenty years since Vail had retired from active connection with its affairs. The parent company was no longer the American Bell, but the American Telephone and Telegraph Company, which had grown steadily more powerful, until in 1900, by an exchange of two of its shares for one of the Bell, it had absorbed the latter, and from being a subsidiary had become supreme. There had been changes also in its leadership. W. H. Forbes had resigned the presidency in 1887, to be succeeded by John Howard Stockton, who, after a brief two years, was followed by John E. Hudson, who, the reader may remember, had succeeded Vail as general manager in 1885. Hudson was already president of the long-lines company, and it was thought wiser to have the direction of both under one head.

For about eleven years President Hudson administered telephone affairs in a manner that accorded with his traditions. He was an able lawyer, a cultured, conservative man, who regarded the telephone business as a patent-owning concern—a monopoly with rights to be protected—an aristocrat like himself, whose service it was the privilege of the public to use and pay for without much voice as to its quality.



THEODORE N. VAIL IN 1898
(From a painting by Humbert)

His was not exactly "the public be damned" policy, but it partook of that nature. The growth of the system under Hudson was gradual—very gradual, indeed: during the first seven years of his administration there was scarcely any increase in the number of exchanges from year to year. The long wire extensions, however, had grown considerably. Chicago had been reached in 1892—the "thousand-mile talk" having thus become a fact. After that the general growth was somewhat more rapid, and with dividends regularly paid, both President Hudson and his stockholders would appear to have been well enough satisfied.

But in the meantime trouble had begun to develop —at first a little, then a great deal. The Bell patents expired, and everywhere, especially in the West, independent telephone companies sprang up, strung their wires, and set up an outcry that the Bell Company was an octopus, an enemy to the country's industrial life. Populism—a kind of mild Bolshevism —raged beyond the Mississippi, especially in Kansas, where stringing telephone wires to compete with the Bell system became in the middle 'nineties the popular outdoor sport. Promoters with apparatus to sell swarmed. Service at a dollar a month was the rallying cry, and in the beginning, at least, it was pretty good service—quite as good as the Bell of that day, whose instruments in many places had become run down, whose exchanges were often badly managed. Every telephone user—of the independents—was a stockholder who had joined in saving the world from the iniquities of the Bell. Many of the lines were

"farmers' lines," single iron wires strung on rickety poles or nailed to trees, with as many as a dozen or twenty telephones on a circuit, and these were well enough, really a benefaction as long as they kept in order. It was different in the towns; the so-called "home" telephone companies did not prove as great a boon as had been anticipated. They worked well enough, but they fell short in the matter of service. Their stockholding subscribers awoke to the fact that they could talk only to other subscribers of their own system, and that a very large number of persons in the community were still patrons of the Bell. Many, it is true, had cast out the Bell telephones and replaced them with home-company instruments, but also a great many, for one reason and another, had not done so. To communicate with a Bell subscriber meant to put aside other matters and walk to his home or place of business, as in the ancient days. Business men, the grocer and the butcher, eventually were obliged to put in both telephones, and were unhappy, accordingly. The realization grew that the telephone is a natural monopoly, like the family circle—to have more than one is to lead a double life.

Admitting that the Bell system of that day was all that the most wild-eyed populist charged it with being, it still gave better results than any two systems in one community could provide. The realization of the partial or complete failure of their movement for telephone reform—that the one-dollar-a-month rental was but a delusion in the matter of upkeep, a snare of the promoters—did not improve the feelings of stockholders toward the Bell system. They raged

at it; the very sight of the time-darkened instrument still nailed to the wall beside one of their own bright new ones, in some cases incited them to violence.

In the beginning the Bell Company took little notice of these inroads on its territory. Hudson, scholarly and remote, making Greek memoranda in his Boston office, was not much concerned with threatened competition in Iola, Kansas, or even open warfare in Medicine Lodge. Suggestions of modified rates, or the rehabilitation of exchanges and instruments, did not greatly interest him. His attitude would seem to have been one of dignified independence—not indifference, perhaps, though certainly the "take it or leave it" policy was very generally prevalent in towns throughout the West. No effort was made to conciliate the independent companies—to "take them into camp," after the later method. They were merely ignored and scorned, and in more than one instance where they were forced to the wall, the Bell Company acquired for a song their wires and their telephones, and in truly mediæval fashion piled the instruments in the street and burned them, as a horrible example for the future. This was not the best way to promote good feeling, and in certain other towns where officers of the independent company had begun negotiations with the Bell, the stockholders, incensed at what they had heard, threatened their officials with violence if they dared to surrender. Charles S. Gleed of Topeka, at one time president of the Bell Company in Missouri and Kansas once told the writer of these pages that when he undertook to inaugurate a policy of conciliation his hardest job

was to allay the wrath of individual stockholders. Gleed's reputation for uprightness was very general, and managers were willing to negotiate when not cowed by their rabid subscribers.

In one city Gleed received a request for an appointment at midnight in a room of an obscure hotel. He was on hand, and by-and-by there came a knock on the door, a man entered, turned down a high coat collar, and took off a false beard. He was the president of the local telephone company—the independent company—and had come to discuss the situation. He had been mortally afraid to let his stockholders and subscribers know that he contemplated negotiations with the Bell. It sounds a good deal like the fourteenth century.

Perhaps President Hudson came to sanction more liberal policies, for the Bell system extended its usefulness more rapidly during the later years of his administration. By the beginning of 1900 it had something more than twelve hundred exchanges with a million and a half miles of wire. The laws of Massachusetts were not favorable to a policy of expansion, and it was at this period that the American Telephone and Telegraph Company, a New York corporation, in the manner already noted, assumed supreme control. This was Hudson's crowning work, and soon afterward his labors came to an end. In October of the same year he died—fell dead as he was stepping into a railway carriage. He was an upright gentleman, financially safe, lacking only a certain human breadth in his business policies.

His successor was not immediately chosen. One of the directors, Alexander Cochrane, became presi-

dent pro tem until the right man should be found. Just what effort was made in that direction has not been recorded, but one day during the spring of the following year Theodore Vail, in South America, deep in financial and construction problems, received a cable offering him the presidency of the American Telephone and Telegraph Company. The temptation to accept was very strong. Through his old associate, Edward J. Hall, he had kept well in touch with the company's affairs, hoping that one day he might return as its president. His immediate business was too critical, too urgent. He put aside the tempting offer, cabled his refusal, and Frederick P. Fish, a distinguished patent lawyer and already a director of the company, was chosen for the place.

Fish had not sought the position, and accepted it, it is said, unwillingly—perhaps believing himself unsuited to its great problems and heavy responsibilities. He was a man of large capacity for work, conscientious, broadly human in his sympathies—in many ways just the opposite of his predecessor. His policy from the beginning was one of expansion and of personal contact with his lieutenants. Realizing that the independent companies had made great inroads in the West, he began almost immediately a series of extended trips to make the acquaintance of managers in the invaded territory and see what might be done to recover lost ground. On one of these excursions Gleed of Topeka said to him:

"Let us make the Bell Company a house of refuge for every telephone company and man in America—make their stockholders feel that our interests are

theirs—that we have one great common interest: to serve the public best, at a supporting rate. When the independent company declines to sell, consolidate or connect with it. Don't burn the telephones; use them."

President Fish was quite in accordance with this idea: he was for extending the system in every possible way. Consolidation with the independents was not enough; his policy was for general expansion—big business. He inaugurated an era of building and financing such as his company had not known before. New stock issues and bonds were sold and the returns flung into a campaign of development that started a network of wires spreading into every corner of the country, enveloping competition and covering the waste places. The half-inert organism was galvanized with new life.

It was a period of general inflation. Companies everywhere multiplied their stock by ten and floated bonds in quite incredible amounts. The most conservative bank in New York increased its capital stock from five hundred thousand dollars to ten millions and declared a dividend of nearly two thousand per cent. When such things were going on how could a nation-wide industry like the telephone system be kept in bounds?

Exchanges multiplied by the thousand, telephones by the million, bonded debt by the hundred million. More and still more money was needed. In 1906 there was a bond issue of a hundred and fifty million dollars—a hundred million for immediate use, the remainder subject to call, as required. But then the peak of the boom had been reached. The hundred million was presently exhausted, and the group of Wall Street bankers who had underwritten the bonds began

to hesitate. A period of retrenchment and doubt had begun. Telephone bonds were no longer in sharp demand; the bankers complained they could not find market for them at the agreed price. Some concession must be made, and there must be a better understanding of the telephone company's present and future requirements. Nobody quite knew the facts, but its financial condition was suspected to be dangerous.

It was just at this time that Theodore Vail disposed of his South American interests and returned to America, probably for good. He had acquired great prestige as a director of large affairs, with important financial connections abroad. It was believed by the Wall Street group responsible for the bond issues that he was the one man who might be able to guide the business through the storms gathering ahead. President Fish, on the verge of nervous prostration, was anxious to retire. He had put needed vigor into the business and inaugurated a new era of growth, but he had broken under the strain. He had not sought the place—had never felt suited to it.

The bankers recommended making Vail president and bringing the offices to New York. They acquired fifty thousand shares of telephone stock and caused an investigating committee to be appointed, with Theodore Vail at its head. The result showed that the company's affairs were, in fact, involved. A large amount of money would be required for immediate use and a still larger sum by the end of the year. Then followed an auditors' conference in Boston, and a dinner to which not only the committee, but a

number of officials of both the telephone and Western Electric companies, were invited. President Fish presided, and Theodore Vail attended as a guest. His presence there created something of a sensation. To the young men he was more a tradition than a reality. Few of them had ever seen him before. It was not given out as yet that he had been invited to take the presidency, and there was a good deal of speculation as to why he was there.

On the following day Vail invited Vice-President Edward J. Hall, Harry B. Thayer, then vice-president of the Western Electric Company, and his old friend Yost of Omaha, by this time president of the Northwestern Telephone Company, to go with him to Lyndonville. Assembled there, they discussed the situation in great detail. Hall and Thayer put in the greater part of a night answering questions. Vail explained to them that he had been invited to go on the executive committee, and was considering whether he should accept. He did not say that he had been asked to become the president of the company. Next day, however, he confided this fact to his sister, Mrs. Brainard, still at the head of his household. She thought that he had had enough of business cares and urged him to decline. He answered:

"No, I must take it. It is the crowning thing of my life. I refused it six years ago; I am in a position to take it now. Besides, now they need me."

A week later, May 1, 1907, his election as president of the American Telephone and Telegraph Company was announced. The prophesied era of his greatest work had begun.

Chapter XXXVII: Theodore N. Vail, President

IT was one thing to be elected president and another to justify the choice. Theodore Vail faced the situation with the same spirit of youth and confidence with which, twenty-nine years before, he had begun the fight. Something must be done, and with the uncertain prospects ahead it must be done quickly. The bankers were not in a mood to offer any more bonds—they already had a good supply of them on hand. Baring's man came over from London greatly discouraged. His firm had a lot of the unsold bonds. President Vail said to him:

"Don't worry, you will get rid of those and want more of our bonds before the year is out."

The financial agent smiled feebly, remarking later to some of his associates:

"I am sorry Vail said that—it shows he doesn't realize the situation."

As a matter of fact, he was about the only one who did realize it—in all its bearings and relations. He foresaw the storm that was gathering less than half a year ahead, and while the bankers were wondering what he was going to do, he did it. Telephone stock had been declining rather steadily, along with other securities, but public confidence in it was still unshaken. By the end of May it was selling around one hundred and fifteen. It was the moment to strike. President Vail announced a stock issue of about two hundred and

twenty thousand shares, to be distributed among existing stockholders, each owner of six of the old shares being entitled to purchase one of the new ones, at par.

To the amazement of his associates the issue proved an astonishing success. More than two hundred thousand shares of the new stock were absorbed almost immediately. Rights for their purchase sold at a premium. Over twenty million dollars in cash was the result of this sudden piece of financing; the condition of the telephone company's treasury no longer gave cause for alarm.

The net result went much further. It had a most stimulating and convincing effect upon the bankers who had the flotation of telephone bonds. Four months later, when the country's financial structure broke down in one of the worst panics in history—when trust companies, banks, and industrial corporations were closing their doors—the telephone company's credit remained unshaken. Its stock, with every other stock on the list, declined, selling for a brief moment as low as eighty-eight on the Exchange, but it was one of the first to recover, and its advance steadily continued to par and beyond, with a corresponding demand by the public and by the bankers for its bonds. When, in December, additional funds were required, and President Vail made a journey to London to negotiate an allotment of bonds, the agent for Baring Brothers was at the hotel before breakfast to secure as liberal a share as possible.

The financial problem had not been the only one that confronted the new president. He had been

obliged to bring order out of the executive and manufacturing confusion. Following his conference with Vice-Presidents Hall and Thayer, at Lyndonville, he had requested the latter to suggest some one able to prepare a system of reports that would show at a glance how business was going. Mr. Thayer recommended Charles G. DuBois [1] as eminently equipped for this work. There had been no general system of accounting by the various operating companies, who, especially in the West, had been going pretty much their own way, ordering material and apparatus at will, and making reports to Boston that were incomplete and misleading. The statements prepared by Mr. DuBois were so complete and clear that he was made comptroller of accounts.

A drastic policy of retrenchment was inaugurated—the indiscriminate production of apparatus came to an end: in the Western Electric plant twelve thousand men were let go. The engineering department was also given prompt consideration. Here was a vast new empire to be regulated. Nearly everything but the Bell principle had changed during Vail's twenty years of absence, and from a dozen or more earnest young men like Carty and Lockwood there had grown up a staff of inventors and scientists numbering more than five hundred—keen specialists in every branch, to whom the work of those earlier days was the merest A B C. But they were scattered and unorganized. Each of the operating companies had done more or less engineering work; the parent company had its department of development and

[1] Now (1921) president of the Western Electric Company.

research, with a laboratory at Boston; the Western Electric Company had two laboratories, one in Chicago, another in New York. President Vail concentrated these various branches under the Western Electric Company, divided into three groups—at Chicago, Boston, and New York—with John Carty over all, as chief engineer. It was another and very important step in organization.

President Vail realized the necessity of making the personal acquaintance of his lieutenants, the heads of associated companies and their chief officials. During that first active summer of his return he chartered a yacht, the *Mohican*, and in small groups invited the prominent telephone officials of the country to cruise with him. He gave them trips up the Hudson and along the Sound, listened to their problems, entertained them in his regal fashion, made their acquaintance in a way that insured close co-operation and friendship. Considered from the standpoint of after results, this was about the most important accomplishment of that busy season, though each was equally necessary to the success of the whole, and each characteristic of the captain of organization, finance and diplomacy, who had arrived at the place for which all the years had prepared him. One might suppose that he had been overwhelmed by the responsibilities and burdens thus suddenly heaped upon him. Nothing of the sort; to those about him he seemed to be taking matters quite easily—unhurried and unworried, and not greatly pressed for time.

He even had time to expand and improve his Lyndonville property. He bought no less than four farms

that summer, and added a tower to Speedwell in honor, as he said, of his new position. More than that, he found leisure to get married again—this time to Miss Mabel R. Sanderson of Boston. Their wedding took place at Brookline, July 27, 1907. Truly it was an eventful year.

Chapter XXXVIII: Personality and Policies

DURING the twenty years of his absence the telephone business had become like a new world, unbelievably vast in its proportions, inhabited by another race. Few indeed of his old associates were left; Forbes, Hubbard, Williams, Madden, Watson—their names nowhere appeared. Men like Charles F. Cutler, Union N. Bethell, W. Murray Crane, Henry L. Higginson, had become prominent in telephone affairs, constructive or financial. Robert W. Devonshire ("Dev") still remained, a pillar of reliability, and the names of Thomas Sanders and Francis Blake appeared on the list of directors. But these were about all. As for the system itself, its wires had multiplied more than thirty times, to a grand total of eight and a half million miles, nearly fifty per cent of which were underground. The subscribers had grown to a total of three millions, a larger number having been added in one year than there had been in the entire country twenty years before. Vail had left it in its lusty youth; he found it now a great wallowing giant, needing only to be set on its feet. As in the beginning, it had turned to him in its hour of need.

His first report, made December 31, 1907, was characteristic in its frankness—too much so, some of his directors were inclined to believe. When it was mildly suggested that perhaps for the sake of the

company's credit certain items might advantageously be omitted, he said:

"No, we will lay our cards on the table; there is never anything to be gained by concealment."

In the report itself he said that neither the parent company nor the associated companies had anything to conceal. He confessed that they had started the year with "rather an abnormal indebtedness," and told of the measures that had been taken "to bring this within the normal limits of current operations." The Western Electric Company, he said, showed a very small profit for the year. Substantially all of its 1907 dividends had been paid out of the surplus. These and a few other items did not make very cheerful reading, but he showed further that steps had been taken in the direction of retrenchment—that the cost of construction which for three years had been steadily increasing, reaching in 1906 a total of nearly eighty million dollars, had been reduced to something more than fifty million during the year just closed. It was one of the clearest, most illuminating reports ever issued. Far from disturbing public confidence, it established it more firmly than ever. A London friend, an important financial associate, wrote:

I have read your splendid Telephone Report. It never was equaled and never will be surpassed.

Theodore Vail's reports, it may be said, were never dry reading—something to be waded through for the statistical contents. They always contained a "story" which stockholders followed from cover to cover.

He did not limit his policy of frankness—of "laying his cards on the table"—to his reports. There came

a time presently when special committees began the investigation of large public utilities, among them the telephone company. President Vail appeared with great willingness and testified without any constraints or concealments. At such times he would say:

"What is it you would like to know? We will show you anything you want to see, and do anything you ask. Just tell us what you want."

An investigation began in Missouri concerning the relation of the Bell Company to the independent lines with which it was consolidated. President Gleed of the Missouri and Kansas Company said to the attorney general of Missouri:

"Mr. Vail will welcome this investigation. He is particularly anxious to show just what is our position. You can put him on the witness stand or prepare a list of questions and he will answer them."

The latter was done, and the result, with preliminary and closing remarks, was embodied in a book of considerable size, afterward accepted by nearly all the other states as a satisfactory summary of conditions.

"Take the public into your confidence and you win the confidence of the public," was his comment.

In 1908 the publicity department of the telephone company prepared a statement setting forth the close relationship between the American Telephone and Telegraph and the associated Bell companies, amplifying, with display headlines, on the benefits of

ONE POLICY, ONE SYSTEM, UNIVERSAL SERVICE.

The statement was to appear as an advertisement in the November magazines. It was at the moment

of a presidential election and some of President Vail's advisers suggested that such an exhibit might be used as political capital—as evidence, in fact, that the Bell system had the characteristics of a trust. James D. Ellsworth, head of the publicity department, laid the situation before him. President Vail asked:

"Are the statements in the advertisement true?"

Mr. Ellsworth replied that they were.

"Very well, then; let's print it and beat them to it."

Newspaper men loved him. Not only was he cordial to them, but he talked to them freely on any matter of public interest. He never intentionally misled them, and once when he found that he had made a statement not warranted by later events he delegated Ellsworth as a special envoy to look up the reporter and explain to him how the mistake had occurred, reminding Ellsworth more than once (they were on the train at the time) not to fail to attend to the matter immediately upon their arrival in New York.

When lawsuits developed, as they were bound to now and then, there was never any question as to what Theodore Vail would do on the witness stand. He would tell the truth—all of it, and his case would stand or fall, accordingly. Once he said:

"I have very little use for a man who has to win a lawsuit through a technicality—trickery—and I am opposed to concealment in trying a case. My idea of a lawsuit is to get out the facts, *all* of the facts, then see where the rights are. I am opposed to all forms of concealment in litigation."

He was a disconcerting witness to the lawyers of the other side. Edward E. Loomis once said to the writer:

"You should see Mr. Vail on the witness stand with the lawyers trying to confuse him. He will listen to one of their misleading questions and then answer, 'What you want me to say is so and so, but that wouldn't be true, so I am not going to say it. What happened was this': He then proceeds to give them a clear statement of the case that cannot be attacked from any point. To examine Mr. Vail is likely to give a lawyer a liberal education on the subject in hand, but it also, sometimes, almost gives him nervous prostration."

Theodore Vail's old policy of taking the enemy into camp was pushed as it had never been before. "Consolidation" was the watchword. The independent companies that were still working damage, not only to the Bell system, but to the public which they undertook to serve, were invited to come in, practically on their own terms. When, as sometimes happened, they did not wish to lose their identity, they were permitted to connect with the Bell, a privilege likewise extended to the farmer lines. In fact, like the salvation that it was, consolidation was offered practically free to those who would accept it. During the year 1907 four hundred and fifty thousand telephones had been linked to the nearest Bell exchanges, to be followed in 1908 by two hundred and fifty thousand more. "One policy, one system, and universal service" was making great headway. The Bell was no longer regarded as an octopus to be destroyed. It had become a feather-bed for tottering telephone companies.

Also, the general attitude of the public toward the

Bell had become friendly: one reason being the improvement in its service; another, its own attitude toward the public. There had been a time when short answers and curt treatment had been expected from telephone employees. A telephone manager had been a person to be approached with awe; a telephone operator was about equally indifferent and impolite. Now, all at once these unpleasant features of the service had disappeared. From the highest managerial position to the girl who answered your call there was human consideration, and the mild answer that turneth away wrath. "The voice with the smile" became famous, and it was the echo of Theodore Vail's own voice through the entire system; his own broad and kindly understanding, his own deep consideration for the people he served. It was the company's greatest single asset.

He required courtesy and efficiency on the part of employees, and in return provided for their comfort and happiness. He instituted better rest rooms and restaurant service for the girls. He introduced benefits in the case of sickness, and for old age and death. He arranged for the purchase of stock by the employees. These matters lay very close to his heart. Once speaking to E. D. Nims[1] of St. Louis of his pension idea, he said:

"I want to encourage young men and young women to get married. I want them to feel that in case of sickness they will be provided for."

Tears came into his eyes as he said this, showing how deeply he felt on the subject. Among the things

[1] Now (1921) president of the Southwestern Telephone Company.

he did for the girls was to provide resorts where the sick and the tired could go for convalescence and rest. That President Vail's efforts in behalf of his employees were appreciated is shown by an incident of this period:

Once, when with his niece Kate he was on his way to Lyndonville, the train stopped at a small station and he asked Miss Vail to step over to the exchange and call up New York. To the operator in charge she explained her errand and asked permission to use the telephone. The young lady looked at her and said:

"Of course I don't know whether you are Mr. Vail's niece or not. But I will take your word for it, and if you are you ought to be very proud of that fact, because he's been so good to us girls."

It would be impossible to detail all the undertakings of these early years of Theodore Vail's return to the telephone company, and in any case such a history would presently become but monotonous reading. Two words may be said to cover his greater policy—Organization and Humanity. With his gift for picking men he chose his lieutenants to carry out their work on these lines. He did not bother with the details—he gave them working plans, and asked only for results. All were eager to co-operate, and it was only a little time until results were made manifest to everybody concerned: the public, the stockholders, and the employees. Bernard E. Sunny, of Chicago, who became a vice-president at this time, once said to the writer of this history:

"When Mr. Vail came back to the telephone com-

pany as president, telephone men and the public generally recognized that somebody was there who not only knew the telephone business, but the world's business, and it restored confidence."

The giant had been placed solidly on its feet, and its growth would continue. Not in the recent riotous fashion, but in a manner orderly and safe. The report made at the beginning of 1909 showed an increase for the year of nearly a million and a quarter miles of wire, with half a million new subscribers and connecting stations, while the cost of construction had been reduced to $26,637,200—that is to say, to about half that of the previous year, and one-third of the sum spent in 1906. The great business was on a normal basis—had become, in fact, except in extent what it is to-day, the nerve system of the nation's business and social life.

And what a system it is! No words can convey its magnitude. Its millions of radiating wires, meshed and interlinked at its myriad exchanges; its marvelous multiple-switchboards, with their twinkling lights, and the waving white arms of those earnest weavers of speech that are flinging a web of voices to the nation's utmost corners—how can one even suggest a picture that can be likened only to the stars and the sky, for infinitude?

No human mind can grasp it all, not even the minds of the wonder-working engineers who have created it. As for Bell and Watson, what must they think sometimes, recalling those hot days when they were struggling to construct a machine that would carry a single intelligible word to the adjoining room? And

the early operators—those half-dozen girls, at their primitive switchboard in Holmes's exchange. Some of them are still living, and how proudly they must tell their grandchildren of the days when they were pioneers in a new world, advance-guards of a great army whose loyalty has never faltered, whose acts of heroism will compare with any in history!

To write in detail the story would be to fill not a volume, but a library. One may only present an aspect here and there, from which the reader may gather some impression of an achievement that seems limitless. Much that is of interest and value must necessarily be omitted, and, after all, it is chiefly the story of a man we are telling—his part in the great industrial epic.

Chapter XXXIX: Taking Over the Western Union

AN important event—the affiliation of the Western Union with the American Telephone and Telegraph Company—occurred in 1909. As the name conveys, the American Telephone and Telegraph Company had been organized with the view of developing or acquiring a telegraphic system, and now after twenty-four years the thing was to be accomplished. The wires of the Bell system had long since outgrown those of its ancient rival—the latter, indeed, had become a mere pigmy by comparison. Furthermore, through general mismanagement and illiberal policies the Western Union had run down. Its offices had become frowsy, littered, uninviting places where indifferent and underpaid employees gave half-hearted service. Telegrams did not always make as good time as letters; the odds were frequently in favor of the latter. The dilatory messenger boy furnished a standing joke for the comic papers.

As early as 1902, when he was no longer connected with the telephone company, but always interested in its fortunes, Theodore Vail had outlined a plan by which one of the telegraph companies might be combined with the Bell, to the advantage of both. In a letter which he wrote at that time he declared that the two were in no sense rivals, but complementary—natural auxiliaries. It was his primary thought that a man should be able to sit in his office and telegraph

to his home or to another office in any part of the country without the employment of any agency other than the wires. By receiving and delivering its messages by telephone the telegraph company would gain in promptness and save the heavy expense of messenger service. His plan comprehended other economies, but this was the beginning.

At this earlier period he favored a combination with the Postal Telegraph Company, believing that such an arrangement might be more easily and profitably concluded. Now, seven years later, whatever objection there may have been to the Western Union association would seem to have been removed. At all events a controlling interest in that company was acquired, and President Vail—president of the Western Union, as well as of the telephone company—immediately set to work to rehabilitate its offices, its personnel, its deteriorated service. Newcomb Carlton, formerly a telephone man, and by this time managing director in London of the British Westinghouse Company, was brought over and made vice-president. Carlton was a man of ideas, calculated to carry out a campaign of progress and reform.

About the first step was to clean up the dingy telegraph offices. Polished oak and shining plate glass began to replace the smeary windows, rickety desks and counters; bright new paint and kalsomine gave cheer and invitation to walls and ceilings. Prizes were offered for the best and neatest looking offices; courtesy and prompt attention were stimulated by increases of salary. It is amazing how blind the managers of a great corporation can sometimes

become. The public is largely reached first through its eyes, next by the character and promptness of service received.

There was no delay in returns from these reforms; telegraph business picked up forthwith. When it was further realized that the telephone subscriber in his office or his home could take down the receiver and ask for the Western Union, send a telegram and have it charged to his telephone account, the public realized that nothing short of a convulsion had taken place in Western Union service. Business grew astonishingly, showing an increase of five million dollars at the end of the first year. Customers did not shun telegraph offices any more as disheartening places where they were likely to receive discourteous attention, when they received any at all. The idling, non-arriving messenger boy became scarce and was in a fair way to become extinct.

This was not all. President Vail had a number of ideas besides the improvement of existing conditions. He realized that there were hours during the day and night when telegraph operators had little or nothing to do; he proposed to give the public the chance to utilize these quiet periods at economic rates. He devised the night and day letters, and the cable letter, and the week-end cable, all of which became institutions not only of convenience to the public, but of profit to the company as well. With increased earnings the offices became still handsomer, more inviting, and more numerous. Further advancements in wages were allowed. By the end of the third year the pay of operators had increased a full fifty per cent—an

additional sixteen and a half million dollars having been thus divided among the employees. In an article in *Printers' Ink*, Charles W. Hurd wrote:

> All that Theodore N. Vail did to the Western Union . . . was to put life and courage into the demoralized force, improve the 25,000 telegraph offices scattered over the country, create several new telegraph and cable services to fill in the force's idle time, reduce the general cost to the public, and educate the latter to these new services and economies through country-wide advertising. . . . Only, nobody in the old organization had seen it before, had been aware of the real basic trouble, or knew where to begin to overcome it.

As to the matter of advertising mentioned in this paragraph, the shining new offices themselves were about the best exhibit in that direction. Vail, however, did not stop there; he undertook a regular campaign of publicity, announcing the various features which the telegraph service offered and the importance of their use. It was a campaign of education such as no telegraph company had ever thought it worth while to undertake. One of the advertisements read:

> When you lift the receiver of a Bell Telephone and call "Western Union" you are in communication with all the world.

He made himself one with the men of the service. Having been a telegraph operator, he knew their problems. He was urged to go out among them, and did, in fact, visit some of the larger offices. To others he wrote letters, telling them that the company wished to improve conditions, asking the men to come directly to him if they had grievances which they felt were

not being settled. Eventually he would seem to have gained the full confidence of every man on the force.

He established a pension system, and remembering his own hard-up, borrowing days, organized a loan service. He said:

"It ought to be possible for any good man in the company's employ who is in pressing need of money to get it from the company—get a full month's pay in advance, if necessary."

The loan service proved a success, and the company's losses through it were negligible. The effect on the morale of the employees was excellent.

President Vail was not permitted to continue these undertakings. The Department of Justice at Washington decided that the association of the two companies violated the anti-trust laws and required their separation. Whatever Theodore Vail might think of such an action from the standpoint of public welfare, he was the last man in the world to oppose an opinion of the court. In 1913 the Western Union stock owned by the telephone company was disposed of, and he resigned the Western Union presidency.

The work he had undertaken, however, did not come to an end. Newcomb Carlton succeeded him and carried out his suggestions—the Western Union maintaining friendly and business relations with the telephone company, to the very great advantage of the public at large.

That Theodore Vail's efforts to improve telegraphic conditions were appreciated by the employees of the company was shown by many letters which he received. An extract or two from one written by John Marshall,

of the Savannah office, will convey the general feeling. Mr. Marshall wrote:

The employees of the W. U. owe you a debt of gratitude they can never pay for the Pension and sick benefit scheme inaugurated by you. . . .

When an operator passes the 40-year milestone the thought of the future is depressing, especially if he has not saved anything, but the knowledge that a liberal pension awaits him when he is no longer able to do his work is certainly gratifying.

Before the pension scheme was inaugurated Unionism and discontent were more or less prevalent in every large office, but one never hears of either now. . . . I have been with the Company at this point since April 2, 1892, and can truthfully say that better feeling exists between employees and the Company at present than at any time since I have been here.

The reply to this was characteristically brief and to the point:

My dear Mr. Marshall:

About the only real gratification that one gets is the knowledge that his efforts have been appreciated, and I cannot tell you how much gratification your letter and others like it have caused me. I thank you for it.

Very sincerely,

Theo. N. Vail.

Chapter XL: Speedwell and the Hobby Club

MATTERS at Speedwell, meantime, had not been standing still. They never did stand still where he was—not for long. For one thing, he had bought at least seven more farms, giving him about twenty-five hundred acres in the aggregate. He might have continued to buy if Manager Hubbard had not suggested that perhaps he had about all now they could well handle. He had also brought water to Speedwell from a spring-fed pond four and a half miles away. He had laid an eight-inch pipe all that distance, at a cost of forty thousand dollars, and had constructed trout ponds, a waterfall, a fountain, etc., around the house.

Extensive barns had been added and a number of houses had been built, or bought and reconstructed, for tenants and others associated with the farm work. The place, with all its spreading fields, its hundreds of horses and cattle, its variety of new projects always under way, required a great force. For one thing, he had established there an agricultural school where the young men of Vermont could learn practical farming. He had affiliated this undertaking with the Lyndon Institute, of which he had been a patron since the summer of his first investment in Lyndon, thirty years before. He had now become its chief sponsor—its financial backer in a considerable sum. Furthermore, he had undertaken to stimulate the

boys and girls of the neighborhood to interest themselves in gardening and other home pursuits, enlisting the assistance of an energetic townswoman, Mrs. John Chase, to organize the Lyndon Boys and Girls Home Project Club, with a little fair each year where they could exhibit what they had produced. On these occasions the children brought small tables, decorated them, and laid out their exhibits of corn, carrots, pumpkins, potatoes, and the like. The fairs were held in a wide green space in front of the village teahouse, and Farmer Vail made it a point to attend them. On the first of these occasions, when he had visited each of the small exhibits he said:

"Those are all very fine. Each of you will get a prize."

The educational features had become his chief interest in Lyndon, and we shall hear more of them a little later. The fact that he had been awarded two college degrees, that of Doctor of Laws, by Dartmouth in 1911, and the same degree by Middlebury College a year later, may have warmed his interest somewhat in that direction.

The social life of Speedwell Farms had been renewed. His wide financial connections, the majesty of his position in the business world, had drawn about him the foremost captains of finance and industry; the enlargement of his great house made it possible for him to entertain anywhere from a dozen to twenty or more such guests, when a business conference or some special event, like his birthday, invited their attendance. Men like J. Pierpont Morgan, George F. Baker, Henry P. Davison, and Senator Nelson W.

SPEEDWELL FARMS, 1907

Aldrich came at such times—these four having been simultaneously present on one notable occasion. Many others came—painters, literary men, musicians—persons of achievement and distinction, not only in the business, but in the beautification, of the world. There were musical entertainments, as in the earlier days; he had installed a large pipe organ, capable of being played either manually, or mechanically with musical rolls, and this he had learned to play. It was really a very wonderful instrument, built in as a part of the house, splendidly rich in tone. He derived great pleasure from it, and when, as often happened, he arrived by an early morning train, he would play a little before going to bed.

He had added largely to his collection of art objects, books, pictures, manuscripts, letters, bric-à-brac, and the like, and had become vice-president of the Hobby Club, an association of collectors, each of whom had some special bent in the accumulation of literary, artistic, or scientific objects and achievements.[1] His entertainment of the Hobby Club was one of the historic events of this period.

It was on a Friday in September (1912) that twelve Hobby Club members arrived in Lyndonville and, after being driven over the farm and to Willoughby Lake, assembled in the evening about his big round table. Chosen as the speaker for this, their fourth dinner, it had been his idea to entertain the club at Speedwell Farms. He had been very much disturbed

[1] Organized 1911. Meetings in the form of dinners are held at the homes of members. The speaker of the occasion, the host, takes as a topic his own hobby, and the assembled members are later afforded an opportunity to examine his collection.

at the prospect of speechmaking, his experience in that field having been limited to one or two not very satisfactory attempts. He had often talked at length, and most effectively, before investigating committees and from the witness stand, but anything so ambitious as a prepared address to a group of intellectual men he had not attempted before. Probably he thought he would be more comfortable on his own ground.

In the club register "Farming" had been set down as his hobby. He chose, however, another subject for his speech. For fifty years he had been concerned in communication over long distances—by telegraph, by mail, by telephone. He announced his subject as "Intercommunication," and the speech that followed gave no evidence of being the attempt of a beginner. He had the wisdom to put himself at ease by announcing his inexperience. He said:

> You may be surprised to learn, but you will not fail to realize before you have heard me through, that this is my third attempt to make what might be termed a formal address—if you can call this formal. Many have been the conversations with disagreeing or doubting boards and hesitating committees, but there was the excitement of action, the blood was up, the personality disregarded and self-consciousness forgotten, the objective only remembered.

He referred here to his first attempt, in St. Louis, told in an earlier chapter, and its humorous result.[1]

> My next attempt was in Kansas City only a year or so ago, when the public wanted the two telephone companies to abolish the nuisance of duplication, to get together and give one service, to which there was the usual opposition from the self-constituted public regulators in whose minds reforms, so called, are never considered in connection with, or as having anything to do with, practical advantage or possibilities.

[1] Chapter XVI, pp. 86–7.

Passing through the city, at a luncheon given me by the Chamber of Commerce, I was forced to my feet, and thought it was a good time to explain why telephone service was bad in early days as compared with the present. Reporting this, one of the evening papers said that Mr. Vail endeavored to explain why the Bell service was so bad in Kansas City, and that this alone should be an argument against combination.

The next was at the first commencement of the Agricultural School of Instruction we have in this community, one of my hobbies. A fine class of twenty-five boys was graduated—raw country boys who had their own way to make. The address was read to them as well as possible between periods of stage-fright and emotion. Each of you will be presented with a copy, because it contains a lot of good advice which some of us older people may follow. There is no conceit in saying this, because there is not an original idea in it—it is "cribbed" from all those good and wise maxims formerly included in the education of youth, but which seem to be lost sight of these days.

This is the Hobby Club. My hobby is not after-dinner speaking and in some way this talk must be brought back to a real hobby. What is a hobby? Many have the same idea of a hobby that a political leader had the other night when he spoke of an aggressive, bumptious, persistent candidate with whom he was not in sympathy. "Look at him," he said, "like a child in the center of a room ferociously rocking his hobby and thinking he is getting somewhere. He isn't. He is only wearing a hole in the carpet." . . .

A man's hobby is, however, not to be dealt with except seriously. Any serious, concentrated pursuit is a hobby. The very essential of a hobby is earnestness, and that is why hobbies have done so much in the development of the world, more than they sometimes get credit for, since by many persons hobbies are not regarded as implying anything like application, concentration, broad and exact information, without which any hobby is a failure. . . .

What is my hobby? For this evening at least, we will call it Intercommunication; all my life, all my work or play has been side by side with the evolution of intercommunication. It has variety and variation enough to separate into many hobbies. It is always developing and unfolding, and therefore never loses its interest. My only fear is that this talk may become too personal. Whatever success or reputation may have come to me has come from the little accomplished by me in the development of inter-

communication. Members of my family before me have been connected with the beginning of two of the most potent instrumentalities which have created modern intercommunication, the steamship and the telegraph, while my connection with the early development of the mail service as we know it, and with the telephone, is more or less known to all of you.

Intercommunication is a large subject, its history is the history of civilization and development of the world. It was and is the advance agent of civilization, of all intellectual, commercial, and social development. The development of intercommunication and the development of the world, the growth and evolution of man, of civilization, of the economic world as we know it, have gone hand in hand, or rather step by step, along the trail made by intercommunication.

He continued in this strain for some minutes, and followed with an account of the genesis and development of the telegraph, the mail service and the telephone, with some slight and all too modest reference to his own association with these epoch-making things. It was really a fine address and marked the beginning of what became a pleasant diversion of his later years. He never again became panicky before an audience, and spoke on many occasions both with and without preparation.

On the morning following the club dinner he put his guests into motor cars and drove them forty miles to his trout preserve near Groton—a beautiful little lake surrounded by five thousand acres of land, on its shore a thoroughly equipped camp for the entertainment of guests. Trout have seldom been more plentiful anywhere, and no visitor ever came away empty-handed. He kept the Hobby Club still another day, for there was no limit to Speedwell hospitality. It was always unstinted, always of a regal kind.

Vail decided to buy another yacht about this time. He purchased an ocean-going three-masted sailing craft with auxiliary steam power, which he concluded to call the *Speedwell*, thus giving the name a still wider currency. The *Speedwell* was in England when he purchased her, and with Mrs. Vail and his niece, Kate, he went to Jekyl Island, off the coast of Georgia, to wait for her. He was a member of the Jekyl Island Club, and with good company the waiting was pleasant enough.

But it was also long. Day after day passed and the *Speedwell* did not arrive. Mornings and afternoons the watchers walked out to the ocean side of the island, thinking perhaps to see her sails lifting above the horizon. She was not fitted with wireless, and there was no way to hear from her. They had well-nigh given her up for lost when at last one day they were thrilled by the sight of her three topmasts breaking the horizon line. Something had happened to her auxiliaries and she had made most of the voyage under sail. Repairs were completed and there followed a beautiful winter cruise down the coast of Florida and along the Spanish Main. The *Speedwell* was a staunch vessel, worthy of her name. She encountered a heavy tropical storm on one black night of that voyage, but she rode it out safely, winning the confidence and affection of her owner, who kept her two years longer and sailed her to many ports.

There now followed a rather quiet period in Theodore Vail's career—a period of important constructive work but without dramatic climax. There occurred, however, at this time an event of moment

in his personal life—the marriage on December 17, 1913, in the Lyndonville church, of his niece and adopted daughter, Katherine Vail, to Arthur A. Marsters, long associated with the Bell Company, secretary of the American Telephone and Telegraph Company since the beginning of 1912. No doubt it was a gratification to President Vail thus in a sense to "keep the telephone in the family," and the fact that "Kate" was still to make her home with him, at least during the summers, at Speedwell, was an added comfort.

Chapter XLI: Talking Across the Continent

THE summer of 1914 brought the war that wrecked Europe, but, except for a brief period in the beginning, did not greatly disorganize American affairs. Business as usual—better than usual—was the customary report, and constructive work in all branches of industry continued. The end of the year saw the conclusion of a telephone undertaking that had been in progress since the first copper wire started westward from Boston, nearly a generation before—the completion of the transcontinental line.

It was, in fact, just thirty years since Doolittle's hard-drawn copper wire had made the New York extension possible and long distance something more than a dream. Progress toward realization had been fairly steady since then. Chicago, for a long time regarded as the farthest frontier of transmitted speech, had been attained in the fall of 1892. The visitor to the World's Fair, the following summer—only seventeen years after Bell's first public exhibition at the Philadelphia Centennial—could, if he so desired, experience the sensation of talking with New York and Boston by direct wire.

For a considerable time it seemed that the "thousand-mile talk" was about the limit of intelligible speech, however perfect the conductor and the insulation. But then came Dr. Michael I. Pupin of

Columbia University, with a device known as a "loading coil," simple in mechanism but of inestimable value, in that it enabled the delicate currents of speech to gather themselves, as it were, and "carry on." Omaha and Denver became possibilities, and after that who should say that San Francisco might not be reached? Western progress was not delayed, and by 1911 the Denver-New York circuit was working, properly interlinked with a vast territory between.

It was now President Vail's intention to push ahead to the Pacific coast. His policy of one system was unrealized while a gap of a thousand miles existed between its Eastern and Western divisions—a section, so to speak, out of its spinal cord. He was assured that there was no reason why this remaining stretch should not be filled, why speech should not travel across the mountains, provided his company was willing to supply the means.

There was a hitch at this point—not really a hitch, but a hesitation. The cost would be very great. It would require some hundreds of tons of copper wire and a vast amount of labor. There were those among the board of directors who conceded that it would be a good thing to do, but believed that the venture would not pay. After listening to a variety of opinions, President Vail said:

"Oh, well, if it is a good thing let's do it, anyhow."

He had made similar decisions a good many times before, and thus far they had turned out well. There was no further opposition. The engineers were ordered to push westward from Denver to the Coast. Four

heavy copper wires were started across the mountains in 1912, and less than three years later—by the end of 1914—copper strands glistened from New York harbor to the Golden Gate. The wires of the Pacific slope were linked with those of the Mississippi valley and the Atlantic seaboard.

The formal opening of the transcontinental line, January 25, 1915, was a memorable occasion. The ceremonies were held in New York at the company's offices (then at 15 Dey Street) and coincidentally at San Francisco, at Washington, and at Jekyl Island, Georgia. President Vail was at Jekyl Island. Lameness due to a fall held him there, and in order that he might participate it was necessary to include another thousand miles in the long circuit of speech.

The ceremonies were called for four o'clock P.M., Eastern time—one o'clock in San Francisco. A number of guests had collected in the New York office, and at one table was seated Dr. Alexander Graham Bell, before him a replica of the first crude instrument that he and Watson had created, and in a glass case a piece of their original wire. Above his head hung a portrait of President Vail. It has been said that Bell created the telephone and that Vail created the telephone business. It was proper that they should be thus associated. With Bell at the table were seated prominent officials both of the telephone company and of the city of New York. In the Washington group were President Wilson and members of the National Geographic Society. In San Francisco Thomas A. Watson was the chief figure; with him were Thomas B. Doolittle, Mayor Rolph, and others of prominence.

The meeting of the East and the West was recognized as a national event.

Simultaneously at half past four in New York and half past one in San Francisco the ceremonies began. In the New York office Vice-President Bethell made a brief address in which he told his hearers that the great achievement which they had assembled there to celebrate was due to the efforts of the telephone engineers, backed by the courage, sagacity, and vision of President Vail. Chief Engineer Carty then rose and stated that Thomas A. Watson was at that moment addressing the audience in San Francisco, but that presently he would hold a conversation with Doctor Bell, these two having been the first ever to speak and to hear by means of a telephone wire. He pointed to the crude instrument in front of Doctor Bell, and said it would be used for a part of their conversation.

Word came that Mr. Watson had finished speaking and was ready to talk. Doctor Bell picked up the telephone receiver—using the improved instrument in the beginning—and asked Mr. Watson if he could hear. Watson replied that he heard perfectly, and then Doctor Bell spoke through the old telephone. It was a great moment: the old telephone with its original inventor and maker was about to speak across the nation. Bell said, using the words of the first transmitted sentence:

"Mr. Watson, please come here. I want you."

To which Watson answered:

"It would take a week for me to do that now."

Perhaps these were not the very first sentences they

exchanged, but at all events they were among the first and completed the dramatic moment.

Theodore Vail, at Jekyl Island, a thousand miles farther away, was listening to the proceedings—with what emotions we may well imagine. It was now his turn to speak, and John Carty, who as a boy in Holmes's first little Boston exchange had often connected the wires for Mr. Vail's use, now once more officiated, that his chief might speak across the nation. President Vail then congratulated Doctor Bell, Mr. Watson, and all concerned in the achievement, and expressed regret that he could not be present in person. The words were just ordinary and conventional, but who could think of anything immortal to say at such a moment? The fact itself was a big thing, the immortal thing.

About six o'clock it was announced that President Wilson in Washington would speak to the telephone pioneers. He talked with Doctor Bell in New York and Thomas Watson in San Francisco; then, being told that President Vail was on the wire, he said:

"Hello, Mr. Vail!"

"Who is this?"

"This is the President. I have just been speaking across the continent."

"Oh, yes."

"Before I give up the telephone I want to extend my congratulations to you on the consummation of this remarkable work."

"Thank you."

"I am very sorry to hear that you are sick."

"I am getting along very nicely. I am a sort of cripple, that is all."

"I hope you will be well soon. Good-bye, Mr. Vail."

"Thank you. Good-bye, Mr. President."

Certainly nothing very exciting in such a conversation, but, as before remarked, distinguished phrases do not occur at such a time. At the end somebody proposed three cheers for President Vail, and all the way across the continent the cheers were given and Theodore Vail at Jekyl Island plainly heard them. It was an entirely new event in the world's history.

The San Francisco line paid, but it would have been a success even if it had not yielded an immediate return, for the prestige it gave the Bell Company. As a publicity feature it was widely employed. "San Francisco Talks" were given in many clubs, East and West. The writer of these chapters has a vivid remembrance of an evening at the Authors Club in New York, where every guest was provided with a telephone receiver and heard the utterances that traveled back and forth across three thousand miles of wire.

It was all impressively arranged. At one end of the room, in plain view, was a large map of the United States, across which a trail of small electric bulbs showed the course of the transcontinental journey. There was also a screen with moving films that pictured the construction work across the vast stretch of hill and valley, farmland, plain, and snowy mountain tops, through one city after another, ending at last on the shores of the Pacific, where one saw the waves pounding upon the beach.

If I remember correctly it was Mr. Carty who again, from somewhere, officiated, and I can still feel

the thrill that came when we heard him say, "Hello, Pittsburgh!" and saw the little electric light spring out to identify that point on the map, and heard the answering voice. Then, "Hello, Chicago!" and again the answer, and the flash of the electric beacon which marked that point on the journey. After which "Hello, Omaha!" and "Hello, Denver!" and Cheyenne, and Salt Lake City, and then "Hello, Winnemucca!" and from that lost point high up among the snowy Rockies a voice answered, and the little light that sprang up was like a star set on a lofty peak. Then Sacramento answered, and at last San Francisco, and, finally, the station at Cliff House Rocks, where the waves thundered on the shore, plainly heard by us, and seen by us, too, on the screen.

Conversation and music followed, and then the return trip, even more impressive. San Francisco called, "Good night, Mr. Carty," and its little light went out; then Sacramento called, "Good night, Mr. Carty," and became dark; and presently a voice from far up in the Winnemucca snows called, "Good night, Mr. Carty," and the tiny beacon vanished from its high mountain top; and so good night to Salt Lake and Cheyenne and Denver, while the way behind grew black with each vanishing voice. Omaha, Chicago, and Pittsburgh each in turn called their good night to us, and then we were in New York again and all the little lights on the map were dark and we seemed to have returned from a fairy journey—from a dream, nothing but a dream—even though reality.

Chapter XLII: Theodore Vail, Educator

THEODORE VAIL'S chief personal interest of this period was centered in the schools which he had founded or encouraged, and associated with the work at Speedwell Farms. The first of these, the Lyndon Institute, originally known as the Lyndon Literary and Biblical Institution, had begun as a denominational school, founded by Free Will Baptists, first opened to students in 1871. It had been closed for lack of funds, and on Theodore Vail's arrival in Lyndonville, in 1883, he had subscribed liberally toward its rehabilitation. It had reopened the following year, from which time he had been a trustee, its chief patron. A denominational school in the beginning, it had become more and more an industrial institute where boys and girls were taught the practical things of country life—farming, gardening, cooking, dressmaking, etc.

In 1910 Vail conceived the idea of giving the boys of the Institute practical agricultural instruction at Speedwell Farms, and presently established the Lyndon School of Agriculture, with Arthur R. Merrill, a practical as well as theoretical farmer, as principal. This was a separate institution, but it was to be affiliated with the Lyndon Institute, the two working co-operatively for the common good. A year later, following his customary bent, Vail developed plans for great enlargement, both of the Institute and its

agricultural auxiliary at Speedwell Farms. He proposed to the town of Lyndon that he would assume general management of the Institute, provided a certain amount for tuition was guaranteed. The proposition was accepted and he immediately expended a large sum in renovating the interior of the main building. He also engaged Ozias D. Mathewson, a former graduate of the Institute, later of Dartmouth College, as principal. This was in 1912. The following summer Vail purchased all the property in the middle of the village of Lyndon Center, built a modern dormitory for girls, which he named the Mathewson House, reconstructed and moved some other buildings for various uses, forming of them a quadrangle with shaded, attractive grounds. All of this was done at his own expense and for the sole purpose of advancing practical education in that section of Vermont.

The School of Agriculture grew proportionately and co-ordinately. Academic or book instruction was acquired at the Institute; practical demonstration work was given at the farm. The boys worked in the field and were paid for their labor, besides being given the best of board at one of the farmhouses. They were able to pay their way through school in this manner and have something left besides.

Nothing could give Theodore Vail greater gratification than a development of this sort. His plans enlarged continuously. He reconstructed some of the buildings for living purposes, with clean, airy rooms and shower baths. The number of students increased yearly. He foresaw a great agricultural

school and experiment farm in which the state of Vermont would take the utmost pride. He decided to present the state with such an institution complete—land, buildings, cattle, horses—a magnificent estate, perfect in all its appointments, representing his labor and expenditure of years.

In his dream he saw the complete picture of education for the farmer boy and girl of Vermont. The Home Project Club was the primary class that would start boys and girls in the right direction. Then, with the Institute and the Agricultural School they would acquire both general and practical education that would make them useful men and women, builders of a great state. He wrote pages on the subject, and perhaps something of what he said may be found of interest here. These extracts, selected almost at random from his letters of this period, present aspects of his thoughts and purpose.

From a letter to Mr. Hamilton Holt, the *Independent*, New York City:

> To make a successful farmer, a man must be not only well up in advanced methods of agriculture—the practical side—but he must also be in one sense a Jack of all trades. He must know how to use tools, do a job of carpentry, blacksmithing, or mason work, so that he can do his own repairing and odd jobs, which cost so much if you have to hire—and which, if not done in time, cost even more.
>
> Therefore the plant should, in addition to the regular farm buildings and equipment, have a few blacksmith forges, a carpenter shop, and some mason outfits.

In another letter he wrote:

> All work and no play makes Jack a dull boy, but work when the boy knows he is getting somewhere, when he knows he is accomplishing something, when he knows that he is doing it for himself,

is quite a different matter, and the boy if he has that real ambition which incites him to want to get somewhere and some place, that boy will work with the zest and pleasure with which other boys play. What deadens the boy is to be made the chore-boy of a house or farm, to do everything no one else wants to do, to be made the errand-boy of every one of his elders, even his cousins and his aunts, and never to have any time. If he gets through one thing promptly and finds it is only to be put to something else, that boy soon learns to dawdle. On the other hand is the boy who is required to do nothing, hardly to do his own studying or learning, never expected to do anything without being coaxed or bribed to do it, who stands around and lets his elders wait on him. That boy never learns anything else than to dawdle, and even if he had the fire and spirit in him, unless and until he becomes awakened, dawdles all his life.

From a letter to Gov. Charles W. Gates of Vermont:

The old methods by which a boy learned a trade by serving an apprenticeship, or by which the farmer got his preparation by being brought up on a farm, are good in their way, and probably in those ways he could get as good a training in the mere manual labor as in any other way. Nowadays, however, most vocations require for the highest success some education in the technical branches; farming particularly, if one is going to get more than a scant bare living, must be conducted on advanced ideas and principles which have been thoroughly established by experiment and practice. To get those thoroughly and quickly can only be done with the aid of those educated in the higher branches, assisted by proper laboratory and demonstration equipment.

As to the education offered by the Lyndon Institute to girls, he wrote to Professor Mathewson:

In regard to the work of the girls, you ask me if I have any suggestions. All I care for is to have it develop on practical and substantial lines and not upon fancy lines. This I want to enlarge upon, and hope to be able to go into the matter and write you later on. In other words, I want the girls thoroughly educated for the duties that they would have to perform if they were self-supporting, or operating their own homes. I think that instead of branching out on any new lines at present, it would be well to develop a little more the lines that we have already taken up. I do not think that

either the drawing or Spanish would be of as much advantage as the same effort applied on the present lines, although it might be effective from an advertising point of view. We may consider that another year.

And again:

I want to put the School outside of the High School, down to a practical basis—not of industrial or manual training or even of domestic science—*per se*—but I should like to get established there a good school where a girl would be taught to take proper care of the house, how to cook, prepare a good plain meal and utilize food material of all kinds—how to wash clothes and *mend* them neatly, and incidentally to do a little flower and kitchen garden work and even to take proper care of the chickens.

It was a noble conception he had, and he lost no time in seeking to make it reality. He tendered Speedwell Farms, complete in every detail, as a gift to the state, on condition that the state would appropriate each year a sufficient amount to maintain it in good condition for school and experimental purposes. He did not anticipate opposition to the acceptance of this gift, but politics can always produce opposition, and something of the sort presently developed. The suggestion was circulated that Vail was tired of spending money on his "white elephant," as they termed Speedwell Farms, and wanted to unload it on the state. It is such things as this that cause many rich men to hesitate about undertaking benevolent work. There is always some puny backbiter who never spends a dollar on anything but himself, and who for some small personal reason is ready to ascribe ulterior motives to the doer of any charitable deed.

The opposition, however, was not successful at

this time. A legislative committee was sent to look over Speedwell Farms and make a report, with the result that in March, 1915, the Theodore N. Vail Agricultural School and Farms was accepted as a gift by the state of Vermont, and an appropriation was made to provide for the expenses of the year.

A few of the more important items turned over will convey something of the size of his gift. More than two thousand acres of land; all buildings and equipment; two hundred and twenty-five head of cattle, including the thoroughbred brown Swiss of which he was so proud; fifty horses; a hundred swine; one hundred and twenty-five sheep—everything of the best, the finest breeds of stock, the latest improved machinery, and all in perfect condition. Nothing was reserved, nothing but the right of occupancy by the Vail family of the big house and its immediate grounds during the period of his lifetime. There was a provision, however, that if the state failed to maintain the school and farm it was to revert—not to his estate, but to the Lyndon Institute.

The conclusion of this matter made Theodore Vail very happy. He felt now that his great expenditure at Speedwell had been for the general good. He had arrived at his seventieth year; practical education had been always one of his hobbies; it was a deep satisfaction to feel that he had done something important in its cause.

The Agricultural School and the Lyndon Institute held their Commencement exercises jointly, and these became important occasions. Vail himself signed and distributed the diplomas, and delivered an address

full of encouragement and counsel. He did not strive for originality of thought or expression at these times, but uttered long-established truths with deep conviction, and with a directness and clarity that somehow made the old maxims seem new.

It was also his custom to invite some well-known men to be present, and the Commencement of 1915 would have been a distinguished occasion anywhere. Col. George Harvey of New York acted as toastmaster; grouped with him on the stage were President John Grier Hibben of Princeton; President Ernest F. Nichols of Dartmouth; President John H. Finley of the New York City College (he had walked over the mountains from New Hampshire to be here); President Howard Elliot of the New Haven Railroad Company, and Mr. N. T. Guernsey, general counsel of the telephone company. It was as important a group as could be assembled in America. Most of the guests spoke, and with Colonel Harvey's humorous introductions entertainment was provided for those young men and women which they were not likely ever to forget.

Theodore Vail himself received three more college degrees that summer: Doctor of Science from the University of Vermont, and Doctor of Laws from both Harvard and Princeton. He was rounding out his seventieth year with honors, and with a sense of usefulness that he must have found deeply gratifying.

His seventieth birthday, July 16, 1915, was elaborately celebrated. Many old friends came; congenial men and women to the number of twenty-five or more gathered to welcome his arrival at what Mark

Twain called "Pier 70," where one has reached, as he said, "the scriptural statute of limitations and becomes a time-expired man, ready to be mustered out."

By the statute of years Theodore Vail may have been a "time-expired man," but he was not yet to be "mustered out," though doubtless he might have been willing enough to put aside business and retire to his farm, his schools, his joyous entertainment of visitors, and the pleasures of leisurely travel. In an interview of this time he said:

"I have had several hobbies, but just now my hobby is getting the best out of life. Do I contemplate giving up active business life? I can't. They won't let me. It is not a question of choice. Naturally, if I consulted my own feelings entirely, I should like to drop the harness."

Chapter XLIII: Speech by Wireless

IN telephone achievements 1915 proved a banner year. We have seen how in January of that year the opening of the transcontinental line united, almost as a neighborhood, communities of the East, West, North, and South; and now suddenly, in September, came the announcement of the success of the wireless telephone that was to give universal service a new meaning by making a neighborhood of the entire world.

Ever since the invention of the wireless telegraph there had been much talk among inventors—particularly those of the promoting type—of the wireless telephone which would presently be invented and revolutionize speech communication. All the millions of miles of wire were soon to become obsolete; each person would carry an individual telephone in his pocket, a small, inexpensive affair by means of which he could communicate with almost anybody else, in almost any part of the world. Certainly that was a dream of universal service greater than anything that Bell, or Vail, or even Gardiner Hubbard in his palmiest day of dreams, had ever conceived. The great telephone company would go out of business on these terms—its stock would have no value. This was the kind of thing the promoters talked—those who were about to organize companies and sell shares in their inventions.

President Vail was not much disturbed by these things—neither by the inventions nor the wild statements concerning them. Nevertheless, they were not to be entirely ignored. The wireless telephone was quite within the range of possibilities, and if some one should come into the market with a usable device —something that would talk across the Atlantic and dazzle the public—the Bell Company would immediately be placed on the defensive, required to explain why it had failed to achieve this miracle and what it was going to do about it.

For the moral effect this must not be permitted. President Vail and Chief Engineer Carty held consultations, and Carty conferred with Assistant Chief Engineer Frank B. Jewett[1] and his staff, men who knew all that was then to be known on the subject, qualified to take up the matter of wireless speech in a thorough and important manner. They made figures of the probable cost of experiments on a large scale, and Carty went before the telephone board with a definite statement. He said, in effect:

"With an appropriation of $125,000 our engineers will undertake to talk across the Atlantic Ocean. With double that amount we shall be able to accomplish a great deal more."

Somewhat to Mr. Carty's surprise the board, with hardly a moment's hesitation, voted the larger amount. He was beset with qualms at the size of his contract; he had agreed to do the hitherto unattempted. To his corps of engineers he said: "Boys, they have

[1] Of the Western Electric Company—now chief engineer of that corporation.

given us what we asked. It is up to us to make good."

The constructive problems were only a part of the undertaking. For one thing, there must be absolute secrecy; for another, the work must be carried on as expeditiously as possible, in order that no rival concern might by any chance be first to put speech across the Atlantic, the achievement which would most appeal to the public imagination. Finally, a great war was going on and our government's policy of neutrality was still sacred. The erection of towers on either side of the ocean was likely to invite suspicion and require full explanation as to purpose, with prohibition as the probable result. Especially would it be difficult to do any construction work abroad.

Vail and Carty considered these matters deeply. They decided that the work must be done through the Navy Department, though without, at first, revealing their plans to department heads in Washington. The government was to co-operate, but it was to be kept in "official" ignorance of the undertaking. Even the lay reader will understand the difficulty of such a situation. Nevertheless, it was on this plan that the work was carried out, and it may at once be said of all of whom it was necessary to make confidants—and they were many during this great adventure—that absolute secrecy was preserved.

Engineer Carty put the construction of the wireless apparatus into the hands of his most expert assistants, and with the co-operation of the navy borrowed, or constructed, wireless stations at Montauk Point and Wilmington, Delaware, and by April (1915) talk

was established between these points, a distance of two hundred and fifty miles. Nothing like this had been done before, but it was only a beginning—a preliminary experiment.

The next step was to build a tower on St. Simon's Island, a thousand miles down the Atlantic shore, on the coast of Georgia. The building of this tower excited a good deal of talk. Its construction was attributed to Japanese spies, and what not. It was completed, however, without interference, and on May 18th talk was carried on with Montauk Point, not only by radio, but part way by wire and the rest by wireless, something entirely new. Engineer Carty was, in fact, able to sit in his New York office and speak through an ordinary desk telephone by wire to Montauk, whence the speech vibration, without other human agency, sprang a thousand miles through the air to St. Simon's Island, thence back to New York by wire to a desk telephone in another office of the same building from which the message was sent.

Marvelous as this was, it did not fulfill the contract. Groups of engineers [1] were sent to San Diego and

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[1] At Mare Island were Messrs. Carty, H. D. Arnold, and R. L. Hartley.

At Arlington were Messrs. F. B. Jewett, E. H. Colpitts, John Mills, R. A. Heising, and B. B. Webb.

At Paris were Messsrs. H. E. Shreeve, and A. M. Curtis, and the United States naval Attaché, Commander Sayles.

At Honolulu was Mr. Lloyd Espenschied.

At San Diego was Mr. W. Wilson.

At Darien, on the Isthmus of Panama, was Mr. R. H. Wilson.

During each of the experiments there were present official representatives of the United States Navy, and at Paris there were in addition representatives of the French government, including Colonel (now General) Ferrié.

Mare Island (San Francisco), California; to Darien, on the Isthmus of Panama; to Honolulu, and to Paris. Towers were erected, or arranged for, at these places. Through the secret co-operation of the French government permission to use the radio telegraph station on the top of the Eiffel Tower was obtained. Finally —and this was most important and most astonishing —the naval station at Arlington (Washington) was enlisted in the great experiment. When one remembers the watchfulness of newspaper men, and especially of the Secret Service—alive in war-time to every trick of communication—it seems now well-nigh incredible that secrecy could have been maintained. Such was the case, however, and at each of these points and in their laboratories Bell engineers worked undisturbed night and day, making and installing apparatus in preparation for the great test. There were no precedents to follow—everything was problematical, new in theory and construction.

The Panama station was equipped in August, and on the 27th messages were heard there, transmitted from Arlington, a most encouraging circumstance. By September all was ready—the installations at the various and widely distributed points were complete. Carty himself went to San Francisco, to the Mare Island station, and efforts to establish communication began.

A hundred difficulties were in the way. Some of the stations could be used only at certain hours that did not conflict with the government radio telegraph. At other times atmospheric and electrical conditions were unfavorable. One must catch the right moment;

it was like waiting for an ocean to be calm from side to side. Whenever possible the various receiving stations were notified by wire of the time that sending experiments would be made, but it was not certain that anyone would be listening, except at Honolulu, where Mr. Espenschied seemed always on the alert, whatever the hour. Carty, at Mare Island, listening with every nerve tense, could hear the clash and crash of "statics," those unexplained sounds of etheric space, the roar of artillery in France, as it seemed, and the clatter of machine guns, but day after day passed without a syllable of human speech.

It should have been stated sooner, perhaps, that sending apparatus was installed only at Arlington, the others being receiving stations. From Arlington, at every opportunity, the signals and messages went out, and at last these were picked up not only at Darien, but at San Diego, while Carty, at Mare Island, heard what seemed to him the sweetest music in the world—the spoken word, transmitted through the air, a distance of nearly three thousand miles. Even Honolulu had caught something.

It was now arranged to give a formal demonstration to President Vail and his associates in New York, at a fixed date and hour. September the 29th was chosen as the date, and high noon, New York time, as the hour. This was a risky thing to do, for who could tell what conditions might prevail throughout the length of that great etheric circuit?

In his office at 15 Dey Street, President Vail and nine of his associates assembled. Advised over the

wire that all was ready, President Vail, on the stroke of twelve, lifted the receiver on his desk and spoke into the transmitter, saying:

"Hello, Mr. Carty! This is Mr. Vail."

Instantly Engineer Carty's voice came back, by wire:

"This is fine! This is wonderful!"

It was a great moment in telephone history, ranking in importance with that of thirty-nine years before when Doctor Bell had said:

"Mr. Watson, please come here. I want you."

President Vail's words had traveled by wire from New York to Arlington, where the almost imperceptible vibrations created by his voice had been flung into the ether, to be registered not only at Mare Island, but at San Diego, Darien, and at Honolulu!

John Carty has since confessed that no sound to him was ever so delightful as President Vail's greeting: "Hello, Mr. Carty. This is Mr. Vail." Early next day he received the following telegram:

NEW YORK, *September 30th, 1915.*

J. J. CARTY, Chief Engineer, American Telephone and Telegraph Company, San Francisco, Cal.

I want to congratulate you on yesterday's climax in the way of achievements, the greatest in intercommunication that the world has ever seen.

To you, and to the wonderful staff created by you the world owes a debt.

To throw your voice directly without the aid of wires from Washington to Hawaii, nearly 5,000 miles, a greater distance than from New York to Paris, Berlin, Vienna, or Petrograd, and greater than that between Seattle and Tokio and Yokohama, was wonderful, but to send the recognized voice part way over wire and part through the air was still more wonderful, and was the demon-

stration of the chiefest use that will probably attach to the wireless as amplifying and supplementing, not substituting, the wire system and bring into conversational communication ships, islands, and places which cannot otherwise be reached.

Your work has indeed brought us one long step nearer our "ideal"—a "Universal System."

THEO. N. VAIL.

The messages of the 29th were not heard in Paris, probably because the apparatus there was not at the moment available, or because of atmospheric conditions. But less than a month later, October 21st, when a test was made, the joyful news came that Paris also had received the messages that at the same time had traveled westward to Mare Island, San Diego, Darien, and Honolulu—a major achievement in the world's history. The entire distance from Honolulu to Paris is more than eight thousand miles, a third of the way around the world. [1]

President Vail, at Grand Cañon, Arizona, on his way home from California, where he had been attending the Panama-Pacific Exposition, was apprised of this great triumph. Of course, the work by this time had been made public property, and he gave the reporters a brief message, summarizing the achievement and what it meant to the world.

It was Universal Service, but it had its limitations. It was not what the voluble promoters had promised, and in all likelihood never would be. The wires were in no danger, and the busy agents of the embryonic radio companies lapsed into silence and were heard

[1] It was the voice of B. B. Webb, transmitted from Arlington, that was heard on this historic occasion. The listeners were those named as being in charge of the various wireless stations.

of no more. While they had been talking of what they proposed to do the telephone engineers had done it, and so thoroughly that nothing more was to be said. At a dinner given by the National Geographic Society in Washington, on the fortieth anniversary of Alexander Graham Bell's first telephone patent (March 7, 1916), the assembled guests were given not only the long-wire San Francisco entertainment, but were provided with wireless music from New York by way of Arlington—the singing of the "Star Spangled Banner," in which the diners joined. Doctor Bell and President Vail sat side by side at this dinner, the first time these two had met in more than thirty-five years. Bell in his speech that night said:

Away back in the old days I dreamed of wires extending all over the country and of people in one part of America talking to people in another part of America. It was the dream of a dreamer, but Mr. Vail has made it come true, and to-day we have been witnesses of the fact that there is no part of this continent that is inaccessible to the human voice. Mr. Vail has brought this instrument into every home. What would business be without it? It has even gone into warfare and into the trenches in Europe; in fact, Mr. Vail is evidently trying to make the telephone "first in war, first in peace, first in the hearts of his countrymen." He has covered this continent with a network of wires, millions of miles in extent; he has accomplished the dream of my youth of the wires that should cover this land. . . .

I am struck to the heart to meet my old friend, Mr. Vail, for we have not met since we were young men, and we are not so very old now. We yet look forward to see what Mr. Carty and his brilliant associates will bring forth in the future.

In the course of his remarks Chief Engineer Carty said:

These demonstrations in which you have all taken part to-night are not the result of the work of any one man; they are made pos-

sible by a long line of investigators, beginning with Doctor Bell himself. For my own part, I am fortunate in being the chief of the large staff of engineers and scientists who have put into practical form and placed at the service of the public these marvelous developments exhibited before us to-night.

In his annual report that year President Vail spoke of the successful conclusion of the transcontinental line, and of the success of wireless transmission of speech. Commenting on the latter, he said:

The true place of the wireless telephone, when further perfected, has been ascertained to be for uses supplementary to, and in co-operation with, the wire system, and not antagonistic to it or displacing it.

In the latest report (March 5, 1921) there is nothing to modify this conclusion. Many uses have been found for the wireless telephone: ships at sea, airplanes, islands unreached by cable employ it, but the certainty and privacy of the wire service have not yet been attained.

Chapter XLIV: The Master of Speedwell at Home

THE writer's association with this history began about this time. Relatives and friends had long been urging Theodore Vail to prepare, or to have prepared, the story of his life and public activities. He was regarded by many as the foremost figure in the American business world. It was urged upon him that he owed it as a duty, not only to his contemporaries, but to those who would follow him, to preserve the record in concrete form. Mr. Vail himself, modestly and very sincerely, deprecated the idea. To Charles S. Gleed of Kansas, one of his devoted admirers, a lovable soul of whom he was especially fond, he wrote:

My biography would not be instructive. It would be scrappy, inconsistent, quixotic; I had no training, only a stubborn inclination to go through with what I started to do, without any personal element of ambition or acquisition, but with an intense personal pride. If I had had more sense of acquisition I should have been a richer man than I am. If I had had more ambition I should probably have been self-destroying and I should not have occupied the nominal position I do.

There has been only one prominent factor in what success I have had. That is to do the best I could and get others to help with the best they could do and never to worry about the personal outcome. A big situation created will take care of a great many and no one man can dominate everything.

Without particular conceit as to myself I have never tried to supplant any man nor have I ever been worried about any man supplanting me.

Whether there is such a thing as luck I do not know, but when

I think of where I am I think there is, but when I look back on the knock-out blows I have received in life, at times, *every one of which* I knew was coming, from the drift or condition of things, I sometimes conclude that luck is merely perception and caution.

Gleed, replying, said, in part:

Your letter telling me that I am wrong confirms me in thinking I am right. The description you give of your life is the description of exactly such a life as should be pictured to the young men of the country. The schools are all right, but everything they teach was discovered by somebody who never went to school. They are crutches for the weak, but only walking-sticks for giants. The fact that you have never feared being supplanted, and never have been, shows that you are a giant, for somebody is trying to supplant everybody who has anything worth having. Your story would prove a power for good beyond anything you can imagine.

Mr. Vail finally agreed that the story of the nation's industrial events with which he had been concerned might be worth the telling, or, as he expressed it, "an account of what had been going on in one man's life," specifying that his own particular endeavors should be kept well in the background. It was a concession eagerly welcomed by his friends, and arrangements for the work were not delayed.

It was on the evening before his seventy-first birthday that I arrived at Speedwell Farms. I had at this time never seen Mr. Vail, and as he greeted me in the entrance hall, the light on his snow-white hair, his great rosy face smiling a welcome, I thought him the largest man I had ever seen. It was not that he was so tall—a trifle more than six feet, I think—but he had grown stout, and he stood so straight and carried his weight so well, that he somehow seemed to tower above even those of his own stature. I

believe that it was not really his physical proportions at all. It was his vigor, and more than that, the lofty intellect which one could not fail to realize from the moment of first acquaintance.

A number of guests had already assembled for next day's celebration—old friends, most of them, brilliant men and women—among them William B. C. Stickney, who with his daughter Mary had driven over from Rutland; Mr. and Mrs. Edward E. Loomis and their two little girls; Charles S. Gleed, Harry B. Thayer, Henry P. Davison, Mr. and Mrs. John G. Milburn, Sarah Field Splint, Temperance P. Reed, and Alice Welles, granddaughter of Lincoln's Secretary of the Navy.

I think what first impressed me was the size and abundance of everything—the spaciousness of the rooms, the large richness of their furnishings. It was all big, big and splendid, a proper setting for its owner—indeed, a part of him. It was after the dinner hour, and presently the air became filled with music, mellow organ tones that seemed to come from no place in particular, and rose in a swell that vibrated and died away in waves of liquid harmony. The walls seemed filled with it, and this was, in fact, the case, for the reeds at different points were built into them, above stairs and below. The keyboard was in a gallery that encircled the room, and he was up there playing.

July 16, 1916, was a perfect summer day, and my first view of Speedwell out-of-doors could hardly have been under more favorable conditions. It was at its maximum of beauty: its lakes, its lawns, its trel-

lised arbor across the hill, at their brightest and best; its spacious perennial gardens a riot of color; its great greenhouses a store of hothouse fruits—gold and purple grapes, melons, nectarines, peaches, figs—all in abundance. Nothing was small, and nowhere was there scantiness.

The house itself seemed almost without end. When one imagined he had reached its limits it doubled back suddenly to the greenhouses or to a long veranda or to a carriage house; there seemed really no way to compass its boundaries. It had grown and grown during the generation of his ownership—it was another part of himself. Facing it all, across the valley of the Passumpsic, was Burke Mountain and its purple range of supporting hills. Speedwell and its surroundings seemed to me, that golden morning, the most beautiful spot in all New England, perhaps in the world.

I believe his seventy-first birthday was very much like a good many that had preceded it—with its greetings and its presents, its parade of thoroughbred live stock, that passed in review along the road in front of Speedwell, the guests looking down from the wide open veranda between the towers. Afternoon brought a birthday reception at the "Tea Shoppe" at the Corners, where the children of the Home Project Club assembled in gala attire on the grassy space in front, to welcome their patron and his friends.

Each train brought new arrivals to Speedwell, and that night twenty-six guests sat down to his birthday dinner, assembled about a single round table which could hardly have been less than eighteen feet in diameter, wider than the ordinary dining room, a

white circular sea, gleaming with crystal, and radiant with flowers. Those on the other shore seemed remotely distant—one's conversation must be confined to his immediate neighbors. At a point in its circumference loomed the host behind a vast expanse of shirt front, radiating hospitality, while deftly carving a saddle of mutton, a product of Speedwell Farms. This is not intended to be humorous, but only descriptive, and it does not at all convey the proportions of the reality.

The gathering was typical—persons of achievement in financial, industrial, and artistic life. Later came a host of friends from the village, young and old, and there was entertainment on the lawn, fairy dancing by children in the moonlight, especially arranged for the occasion, and led by a professional. After which, ices and the cutting of the birthday cake, the biggest cake in the world, fully a yard in diameter and so full of favors that few indeed were slighted.

I have dwelt somewhat upon this occasion, for I imagine there are not many such birthday celebrations any more. It belonged to another time, to a kind of golden age, then so nearly at its close. Perhaps I ought to say that the twenty-six guests slept at Speedwell that night, and there was plenty of room, and to spare. I don't know how many bedrooms were in that great house; I was never able to count them with any certainty; I always lost track in turning the various corners, and would find that there was an entire ell, or something, which I had not counted at all. It was quite hopeless.

Chapter XLV: The Personal Side

I SUPPOSE I thought when the birthday was over and the guests had departed that we should set to work pretty steadily on the proposed book. Such was not quite the case. In the first place, there were nearly always guests, and then our Chief Subject was not what might be called a willing one.

He was interested in the undertaking, but his natural modesty—even timidity, for it was nothing less—made him averse to discussing his achievements. He was full of excuses and procrastinations. Undoubtedly he had many things to think of besides biography, but even in his leisure he preferred a drive behind his black spirited pair, or an excursion to Willoughby Lake in the car, or a picnic in the White Mountains, or a trip to his trout preserve at Groton, or long, carefully considered games of solitaire, to anything resembling literary work, especially with himself in the chief rôle. We did arrange, as the result of pretty urgent persuasion, to devote a portion of each day, or at least a portion of some of the days, to making notes, and he was fairly tractable during these periods, though it was punishment to him, and at the end of each session he welcomed his freedom like a boy released from a task. At most other times I doubt if he remembered my errand there at all. I was just a summer guest, like the others, and it was in the course of a variety of excursions and a thousand

games of solitaire (during which he could listen and talk as well as play) that I acquired much of value. It was not safe to remind him of this; it was likely to close him up entirely. More than once he observed with considerable positiveness that whatever was written should concern himself as little as possible. None of his friends shared this point of view, and the reader who has followed these chapters may perhaps agree that Theodore Vail's personality is not their least interesting feature. Assuming this to be the case, it seems proper to assemble here certain impressions from that happy summer—sketchily, for it was thus that they were recorded—mere bits, some of them, but each adding a line, or a shade, to the human picture which at best must be incomplete.

First, I want to dwell for a moment on his games of solitaire. They had become not merely a diversion, but an important part of his constructive life. He played with two decks of cards, using the small Lord Fauntleroy size, and his games, of which there were three, were about equally intricate and difficult. Far from absorbing him, however, their perplexities seemed to relate themselves to whatever business problem occupied his mind for the moment, and by some process of clarification aided in its solution.

He sometimes whistled softly as he played—not necessarily a tune, but neither were the notes unmusical, being a sort of obligato to his thoughts. He did not object to an audience, in fact rather preferred it, and conversation did not interrupt him. He would even join it, and this apparently in no way interfered with the solution of the game or whatever deeper

problems were arranging themselves in his mental storehouse. It was as if his brain were divided into compartments—co-ordinated, but each working independently. Mention has already been made of his ability to carry on correspondence and conversation simultaneously, a fact which I can vouch for, for I have seen him do it many times.

Yet he was by no means always alert to immediate facts. Even when not engaged in his favorite game he had periods of deep abstraction, absentmindedness, that removed him far from his surroundings. His hearing had grown somewhat dull with the years, but his deafness seemed always less physical than mental. Sometimes, when he did not seem to hear on the first or second repetition, I had the feeling that he was playing for time to find just the right answer. There were moments, however, even when he asked a question, that it became necessary to repeat the reply as often as three or four times before it seemed to register, and the pitch of the voice had little to do with this result. On the other hand, if his thought was keenly centered on the subject he heard quite easily. I have more than once known him to comprehend ordinary conversation going on at the other side of the dining table, mingled with other voices.

There were occasions when his mental absorption quite obscured the progress of events, with results sometimes amusing. Once when he was starting on one of his many trips to the Pacific coast, and had invited his niece, Kate, to accompany him, he turned to her at the moment of departure from Speedwell and said:

"Well, good-bye, Kate. I'm sorry you're not coming with me," for the moment not taking-in the fact that she had on her hat and wraps, ready to start. Her prompt reply that she was going along both startled and amused him.

His mental processes seemed always to require some sort of physical accompaniment. Mention has been made more than once of his habit of making small pencil drawings while listening—a variety of curlicues, geometrical shapes, letters carefully shaded. These were signs of interest—lack of interest was indicated in another way. He carried a supply of very large handkerchiefs, and when he was bored a big handkerchief came out and was folded and refolded on his knee down to the smallest subdivision. It was easy for those who knew him to tell when he was not enjoying a situation—the handkerchief would invariably appear, and the folding process continued until the suffering ended.

He retained his old love for driving. He explained to me once that he had no special fondness for horses except when he sat behind them, the reins in his hands. He no longer drove four-in-hand—automobiles had made the pastime too hazardous. Quite frequently he spoke of the days when he had driven with gay parties through the hills behind his Kentucky grays, Colonel and Major and the others, and it was evident that he regretted the passing of this fine sport. The grays themselves were long since dead. Major, with a broken leg, had been shot; Colonel had died in honorable old age, on pasture, in the White Mountains. His driving now confined itself to a handsome

black team hitched to a Goddard buggy, and there were few afternoons when he did not take a guest, or some friend from the village, on a long drive over the hills — not always over the best roads, but by ways that led through localities of interest and to points of choicest scenery. There was a network of these secluded roads and he seemed to know them all. Sometimes he turned into a field and drove straight across it where there was no road at all.

He knew every inhabitant for miles around, and frequently drew up to make inquiries of those he met, as to their affairs and their families, with all of which he seemed entirely familiar. He always gave more than half the road, often in a narrow place putting his own fine team into the bushes to let a farm wagon pass. When out with one of the cars, if a team showed signs of fright, he would get out and hold the horses while the chauffeur drove by to a safe distance.

He seemed always to be looking for a chance to give some worthy person an opportunity to get on. During one of his drives that summer he saw a young man trying to patch up some sort of house where one had recently burned down. Mr. Vail drew up and talked to him, and learned that a fire had wiped out his home and that he was trying to get a roof over himself and family by winter. He had not much to work with, and only a bit of land. He had hoped to buy the adjoining field, but was now unable to do so. Mr. Vail said little at the moment, but was impressed by the young fellow's manner and words. Returning home, he took up the matter with Hubbard and discovered that the young man was a deserving citizen

and that the coveted field was a portion of the Vail farms. Mr. Vail promptly provided a sum of money to restore the ruined house, and with it sent a deed for the land. Nothing could have given him more pleasure. He was for making people happy in their own environment by giving them an opportunity to live fuller and more useful lives. If it could be done in some relation to the soil—its cultivation and improvement—his pleasure was doubled.

He had the deepest feeling for anything resembling land. With him it seemed almost a passion—its ownership and development. To him there was no bad land; some of it was better than the rest, but all of it had fine possibilities. He had planted with young pine trees the sand hills around Lyndonville to give them purpose and value; the stoniest waste invited his interest. One day as we passed a field that was almost a solid mass of gray bowlders, I said:

"How would you like to cultivate that field, Mr. Vail?"

He answered, quite seriously:

"Well, that's good land, what there is of it."

He was not an extremist concerning the preservation of trees. In fact, he strongly believed in cutting timber when it was at its best, saying that if left to stand it would only decay and be wasted—that if cut, new trees would always come up and in a few years there would be a new forest. He did not believe in denuding the land, however, and was strong for tree plantation. Human association with the soil made a deeper appeal to him than any form of art. Once, when we were driving homeward in the sunset, he

looked at the little newly-mown hayfields along the Passumpsic, and said:

"A landscape that shows the work of man is the loveliest thing in the world."

He cherished the thought of pastoral simplicity. It was not his nature to live the simple life, but he had a deep poetic yearning for it. He told me that once on the Florida coast he had seen a negro eating oysters which he picked from the ends of limbs that trailed in the water. A few yards away bananas and oranges were growing; fish could be had there for the catching. He considered that the negro could live without a stroke of real labor, and he envied him.

He liked to believe that the simpler life of his boyhood was still possible, if one really desired to find it; that the cost of living, old-fashioned living, had in no wise increased; that if one would be content with the food, raiment, and housing of those earlier days his expenditures would be the same. No figures that you could produce would make him admit the contrary. He simply ignored them, refusing to believe that the road from yesterday was a one-way thoroughfare. I have never known a man who lived more in the present and the future, yet who recalled more fondly the simpler, and to him healthier, happier conditions of the past. He delighted in primitive incidents of his life on the farm. Once he said:

"One of the pleasantest things I know is to remember a time when something has tasted particularly good to you, just at the right moment. I remember once in Iowa on the farm, I was going out to do some work with the team one winter morning when the

thermometer was forty degrees below zero. I nearly froze to death and tried to get warm by walking, but it didn't help much. I got into the wagon and ran up and down to keep from freezing. That morning we had big country sausages for breakfast, and when I came away, knowing that I'd be hungry by and by, I put two of them between slices of bread. When I came to eat them at noon those sausages were frozen as hard as rocks. I had to gnaw them off, but never did I taste anything so good as they were—so sweet and delicious. I have never forgotten how good those sausages were."

He liked to do simple, impromptu things that would bring his resources into play. Once when driving with Mrs. Vail he stopped at a farmhouse and asked the farmer's wife to give them some dinner. She set out a pie and some cheese, saying it was all she had. Mr. Vail obtained permission to get his own dinner, went out into the barnyard, chased and caught a chicken, found some tomatoes and other vegetables in the garden, prepared the chicken in elaborate style with gravy and fixings, attending to everything without assistance. It was a fine meal, and when they were ready to go he paid for it liberally. The farmer's wife said:

"Well, I should think your wife would always be afraid of losing you."

"Why so?"

"Because you are such a good man around the house."

Life at Speedwell Farms, though certainly unpretentious, could hardly be called simple. The big

house required a small army of servants, and two or three times a week there were dinner parties, with week-end or wayfaring guests and friends from the village. Mr. and Mrs. H. E. Folsom, and Mr. and Mrs. John Chase, friends of his early days at Speedwell, were among those who came oftenest. Mr. Vail always carved the roast and dressed the salad on the table. He had a very special dressing of his own invention, into which, as a guest once remarked, he put everything on the table but the candle shades. Certainly it was a delicious dressing and never failed to rouse enthusiasm—except once. One of its ingredients was a considerable amount of paprika, and on this particular occasion, through some mistake in the pantry, cayenne pepper instead of paprika had been put on the tray. He dashed in the usual quantity and when all was ready began filling the plates, that were quickly passed by Johnson, the butler, to the waiting guests. Somebody took a taste of it, started to make the usual compliment, then suddenly stopped and grabbed a glass of water. Another guest took a taste and did the same thing. One or two others followed suit; it became evident that something was wrong. Mr. Vail himself tasted it, but he had the courage of his preparations; he said:

"It seems a little warm, but you'll enjoy it after the first taste or two. It's probably one of the best salads I ever made."

He stood by his guns and nobly ate his, to the last leaf. The others did their best, but only a few were able to support his position. It ended in a sort of general hilarity and the consumption of great quan-

tities of water, until relief came with the ice cream. What happened to Johnson afterward has not been recorded.

His skill extended to the mixing of every kind of beverage, and was equaled only by his willingness to produce something in that line. The Speedwell cellars contained a store of wines, spirits, and liqueurs of every description—old vintages, some of them almost priceless. His favorite concoctions were mint julep, gin fizz, and champagne cup. The slightest hint from any guest would result in an immediate order to Johnson for the necessary ingredients of one of these delicious beverages.

Certainly Speedwell Farms was a heavenly place for visitors. Everything was at their disposal—the house, the grounds, the automobiles—there were no restrictions. There was, however, one requirement—promptness. Mr. Vail himself was the most punctual person in the world, and he could not abide tardiness, even in his guests. An automobile excursion scheduled to leave the house at ten o'clock did not leave at ten-thirty or ten-fifteen; it left at ten o'clock, when it did not leave at nine-forty-five, which it was far more likely to do, if everybody was present, as was very apt to be the case. One of his guests on such an occasion remarked:

"It is a good thing that Mr. Vail is not president of a railroad company; he would have all his trains leaving ahead of time."

Promptness was also required at meals, or at least at luncheon and dinner, which were served on schedule. The lady who dallied over her toilette and

entered tardily found herself too conspicuous to offend a second time. Breakfast did not matter so much. Mr. Vail himself was usually served in his den, a big, luxurious upper room where anyone was welcome to join him socially and watch him prepare his huge cup of coffee—a combination of coffee with quantities of cream, two kinds, plain and whipped, the assembling of which was a real function. His grandniece, Katherine, Mrs. Marsters's little girl, usually came in to bid him good morning, and to borrow a few grapes before starting for her drive. He was always in fine spirits at the breakfast hour, which sometimes lasted a good while, for he had his mail and his paper there, after which there was talk of the world's affairs and frequent discussion of the latest books, with plans for the day—or for the future. I remember him once saying out of his great cheerfulness:

"When I get through with business I am going to buy a big ocean-going yacht and take all you people around the world."

He meant it, too; nothing would have given him greater pleasure than just such an excursion.

In the matter of reading I thought his tastes somewhat erratic. It was natural that he should love certain biographies, especially those picturing the conquest of hard conditions on the frontier. Hamlin Garland's *A Son of the Middle Border*, a story of early days in Iowa—partly because of its locale, but chiefly because of its vivid presentation—was, I think, his favorite book of this period. Neither was I surprised that another favorite was one entitled *Education and*

Efficiency, or that he enjoyed reading the Bible for its ancient story and imagery. The *Meditations* of Marcus Aurelius was another of his favorites.

His taste in fiction, however, was quite another thing. He was impatient with books by Wells, Arnold Bennett, Bernard Shaw, Ibanez, and other "highbrow" writers. He would read or read at them, sweating and swearing his way through, then turn for relaxation to the lightest tales of adventure, especially to detective stories, which I do not think he ever read straight through, but got the gist of by a semi-induction process, making just enough points of actual contact to carry the connection. I suppose he found these a relaxation, and there were times when he relaxed on them at wholesale, running through as many as two or three a day. He had the collector's love of books, which of course is a different matter, and his library was filled with beautiful and costly volumes.

I have already mentioned that he collected many other rare things. Speedwell was a storehouse of them, and he was at this time building in Morristown a museum—a beautiful marble structure—to hold them. Once he said:

"I don't understand my fad for collecting; I don't know why I do it."

And a little later he added:

"If I ever get rich enough I am going to have a collection of a curious sort. I am going to have the finest example of each kind of art thing in the world."

Which I thought characteristic. In his collections, as in his business undertakings, his imagination had

kept him always busy trying to keep up with it. This was his final idea.

His taste for the beautiful had come by slow processes of evolution, and was always rather uncertain. He had many worthy things, but his collection contained much that had slight artistic value, and of some of these articles he was unable to realize the defects. One evening he asked:

"What *is* taste?"

Some one replied that it was a true appreciation of harmony. He disagreed, saying that taste constantly changed—that what was good taste at one period was poor taste at another. The other answered that this was not taste, but the lack of it—that while fashions change, through the whim and convenience of men and women, the really beautiful thing remains always beautiful, and that the recognition of it was taste. But he would not have it so. He could not, or would not, agree that taste did not change, and certainly his possessions were substantial evidence of the mutations of his own artistic views.

In closing this chapter of personalities I should like to make clear, if I have not done so already, something of the almost childlike simplicity in private life of this man, known to the public as one of the world's great captains, head of its foremost industry. To those who knew him but slightly he sometimes gave the impression of being austere, unapproachable, a sort of business czar. Nothing could have been farther from the truth. He was, in fact, diffident, easily embarrassed, reluctant to meet strangers. Naturally, in his office he was somewhat hedged

around, but in his home anyone could gain admittance. If an applicant of any sort called at his apartment, he would see him, listen patiently to what he had to say, and frequently grant a request that meant an outlay of time and money later on. Often as he had been deceived, he was naturally trusting, ready to be deceived again. Once he said:

"I don't believe in anybody, but I have got faith in everybody." And at another time, "I'd rather get cheated now and then than distrust everybody."

He had a touch of superstition; I remember him saying:

"I saw the moon over my right shoulder once, with a beautiful star in it, making a perfect star and crescent. Perhaps that was good luck." And at another time, "I don't believe in ghosts, but I am afraid of them."

He was easily moved, and his eyes filled at the relation of any dramatic or pathetic circumstance. Romantic and soft-hearted, full of good humor, with a tendency to mischief (blushing with confusion if detected in it), he never seemed more than a boy—a big child, in fact—to those of his intimate daily circle. Great executive force that he was in the world's business, to those close about him—sharing in his projects, his pastimes, and his humors—his daily personal life, in its lighter register, lay somewhere between a joke and a sentimental song.

Chapter XLVI: Last Days of Peace

BY the end of summer Theodore Vail's interest in the work we had undertaken had reached a point where he approved of, or at least consented to, my making a trip to Waterloo and Omaha in quest of such early material as might be obtained from old friends that still survived. He provided me with a letter of introduction, one characteristic paragraph of which may be preserved.

> You may tell Mr. Paine the whole truth—even if it goes to the extent of compromising yourself—for Mr. Paine is my friend, and will protect me.

It was an interesting journey I made, and profitable, though, alas! the ranks of those who had known him in that earlier time were thin and scattered.

On my return I went to his city apartment, on Fifty-ninth Street. He was deeply interested in hearing what had happened, and in the latest reports from those acquaintances of his earlier days. He was especially anxious to know about old friends at Waterloo, and he became enthusiastic at mention of Jake Hoffman.

"Jake Hoffman is a fine man," he said; "I remember working for him, driving the reaper, with a little colt following its mother, one of the horses I was driving. Once it nearly ran into the cutting-knife. It gave me the worst scare I ever had. I could never have paid for that colt."

Presently he began playing solitaire, whistling softly as usual, but still asking questions now and then, concerning Waterloo and the people there. I remained that night and for several days, and our talk was often of the early times at Waterloo, of which he had an affectionate remembrance.

Mr. Vail seemed in excellent health at this time, and went out frequently—oftener, perhaps, than was good for him. He was fond of gay evenings, though a quiet one at home with some one of his old friends pleased him even more. Mr. Thayer, at this time president of the Western Electric, was likely to drop in, and I think seemed closer to him than the others. They did not talk very much at such times—they did not need to—their long relationship and understanding made it unnecessary. Once Mr. Vail said, affectionately:

"Sometimes old Thayer comes and we just sit and look at each other."

When they talked they were likely to recall the past. Once Mr. Thayer said:

"Mr. Vail, what did you do with the first thousand dollars you ever saved?"

He replied:

"Thayer, I never saved a dollar in my life"—a statement of which the reader will realize the truth.

Looking back now on the autumn of 1916, it seems a period of what might be called quiet uncertainties. A presidential campaign was in progress, but without much demonstration. In the Republican ranks the belief was quite prevalent that Hughes would win, and that all unhappy prospects developed by the

European war would take on new and less disturbing aspects, or somehow melt away.

Theodore Vail had no such views. He was stoutly Republican, but he was far from sure of Hughes's election. Over his solitaire he grumbled that the campaign was being clumsily managed and that the Democrats were shrewdly taking advantage of every mismove. He never underestimated the enemy, nor blinded himself to the mistakes of his friends.

Election day warranted his misgivings. President Wilson's campaign, secretly directed by Col. Edward M. House, the ablest and best informed political leader of his time, was brought to a successful conclusion. To Theodore Vail it seemed that uncertainties ominously increased. Large telephone financing was in prospect and he lost no time in its undertaking. He proposed by the sale of bonds and stock to raise at once $130,000,000. One of the directors said:

"Mr. Vail, why do we need all that money now?"

"Well," was the reply, "I believe when you go sleighing it is a good plan to go when there is plenty of snow. Something tells me that snow is going to be pretty scarce, by and by."

He foresaw what comparatively few people then really believed—that the country was on the eve of entering the World War, when billions would be needed to equip the armies, and "snow" for corporation requirements would be scarce indeed. The new telephone securities were offered at attractive rates. Another of the directors said:

"Mr. Vail, don't you think we could get more for our bonds than that?"

"Yes," he said, "we might get more for some of them—possibly for all of them—but then again the sale might drag. We cannot afford at this time to have any hesitation. They must go with a rush."

They did go with a rush, and thus in due and proper season his company was equipped with money and credit for the emergencies of war. The details just set down were given to the writer by Major Higginson of Boston, and he added:

"Mr. Vail was right, of course. He was always right in such matters. He seemed to sit on a higher point of vantage than the rest of us, which gave him a longer range."

Theodore Vail was once asked what single word would express his business success. He answered:

"Well, if any one word would do it, it would be 'precaution.'"

The success of his telephone financing afforded him a great sense of relief, and another telephone achievement of this period gave him a good deal of satisfaction; this was the completion of the great building at 195 Broadway—a structure quite after his own heart. In beauty, dignity, and luxury it was one of the most notable of New York's lofty buildings. Everything about it was abundant, massive and efficient. It somehow represented himself. The telephone buildings of America assembled would make a mighty city, with that as its capitol.

A happy personal event of that autumn was the arrival in the Marsters home of a "grandson," Theodore Vail Marsters, in November. He announced this news to me one night about eleven o'clock. Mrs.

Vail was in Boston at the moment and I was with him at the apartment. He had been out for dinner, and coming in saw the light over my door. He called out the news and invited me to get up and celebrate. He did not summon the servants, but went himself to the pantry for the necessary refreshments, apparently knowing exactly where everything was kept. He said:

"There is some ham in the refrigerator," and this proved to be true, though I wondered how he should know it. Steadily whistling, he produced bread and butter, plates and cutlery, and the necessary liquid supply. We sat until well toward morning, he playing numberless games of solitaire and recalling old memories. When, a week or two later, he developed a slight heart irregularity he jokingly ascribed it to our celebration of the new arrival.

He went in December to Jekyl Island, where, during the holidays, I joined him. He had chartered for the season a power yacht, the *Northwind*, and on its arrival at Jekyl there began a period of quiet dream-like excursions up the St. Johns River and along the Florida shore. His brother-in-law, Doctor Applegate, was aboard, and occasionally guests came down from New York.

Mr. Boyd, manager of the Jacksonville telephone office, had general charge of the expedition: wherever we laid up for the night the manager of that point, notified from Jacksonville, was at the landing with wires to establish New York connection with the boat. Mr. Vail always had a cordial greeting for all telephone officials. They were members of

his big family. With their wives they were invited to visit the yacht and dine there—sometimes to make a brief excursion. No telephone man ever lacked welcome at his hands.

Mr. Vail lingered in those southern waters until the end of March. I had returned to New York meantime, but early in April joined him and Mrs. Vail at Old Point Comfort, and cruised with them up the Chesapeake, by canal into the Delaware, and still northward through the spring. Already before our arrival homeward America had entered the war. Its long day of peace, its comparative irresponsibility as to world affairs, had reached an end.

Chapter XLVII: Telephone "Goes to War"

THE United States entered the European war April 6, 1917. It found the Bell Company ready. It has been said that Theodore Vail began in 1878 to prepare for the war, meaning that from the beginning his resources, whatever they might be, were always, as far as possible, on an emergency basis. Definitely, the telephone company had been making war preparations for a year before the declaration. In 1916, by request of the Secretary of the Navy, a mobilization of communication facilities was made, with Admiral W. S. Benson in command. For three days during which war conditions were simulated, the navy abandoned all other forms of communication between the Navy Department at Washington and the navy yards and naval stations in the United States, utilizing only the Bell system for wire communication with all the naval forces in that territory. Officials were on duty day and night, and at all points throughout the United States, from the Atlantic to the Pacific, could obtain instantaneous telegraph or telephone communication with any other point at whatever distance. Nothing of the sort had ever happened in the history of this or any other nation. Telegraphically and telephonically the United States was prepared for war, so far as preparation could go before the actual event. In March, 1917, President Vail made the following statement:

These are emergency times and it has been a great pleasure to me to be of service in bringing together the telegraph and telephone interests of the nation to serve the government's needs. We are all co-operating with the Council of National Defense to the best of our ability and myself and my associates on this committee stand ready to do anything and everything that the army and navy or other government departments may require of us, to aid in the national defense. Much has already been done quietly between the wire companies individually and the government, and there is now no question but that the nation and the government are amply equipped with facilities for communications of all sorts for whatever need may arrive.

Less than three weeks later the nation had entered the war, and without a moment's delay the organization of battalions for signal corps work began. Bell men sailed with Pershing on the *Baltic*, in May, a mere advance guard; mobilization of the battalions that would follow was in full swing. But this was only a part of the great preparation for war. Everywhere in America constructive and engineering work was doubled, trebled, quadrupled. Complete telephone systems had to be installed in the big training camps that were springing up like magic cities. Washington, from being a comparatively slow telephone town, all at once became the chief talking center of the world. A single added underground cable from the Capitol to New York contained eighty thousand miles of wire. Everywhere government work was given preference, and nowhere was there hesitation or delay. The engineering corps acquired power to cut loose from traditional methods, to adopt the latest inventions. The radio telephone, after two years of experimental use, was to become a definite and practical auxiliary of war. It was not yet on

the fighting front, but it would be, with the arrival of our battalions.

By summer they were going. Toward the end of July President Vail, Vice-Presidents Bethell and Kingsbury, Colonel Carty (as he had now become), and General Counsel Guernsey went down to Monmouth Park, New Jersey, to say good-bye to the First and Second Battalions, who a few days later were on board a vessel bound for France, accompanied by a huge box of maple sugar from Speedwell Farms. Possibly the latter acted as a stimulant, for they had hardly touched France before they were stringing wires in a manner that quite dazed, even shocked, that more conservative nation. From the river Loire to the fighting front a vast telephone system sprang up—thousands of miles of wire on big stout American poles that dwarfed the rather puny construction of France.

American methods sometimes disturbed the French builders, who were accustomed to run their wires along the lines of least resistance and conspicuousness. The Americans, on the contrary, built on the shortest distance between any two given points, across fields, through woods, over hills and swamps —nothing turned them aside. And then the amazing quickness of the Yankees! There was no telephone system in Blois when an American detachment reached that point, but one was there two days later, not built by the Signal Corps, but by one Captain Oliverson of Iowa, who had been of the Bell Company in his home state. It may be added that he was promptly drafted into the Signal Corps after this achievement.

Another incident of American suddenness seems worth remembering. Among the early arrivals at a French port of debarkation was an American general who wished to get into immediate communication with General Pershing, then in Paris. Five minutes after he had set foot on the dock he was at the local telephone office asking for a Paris connection. The young lady in charge said, politely:

"Very well, Monsieur le Général, you are twenty-three."

"Twenty-three? What does that mean?"

"Twenty-two calls before you—it will take about four hours."

"You may cancel the call," said the general, at the same time summoning his chief-of-staff: "String up four lines of wire between here and Paris," he said, "and start the work at once. You can use the French poles."

Five minutes later the men had begun to string wires and started a hubbub. French telephone officials came rushing in to demand various authorizations and other red-tape preliminaries.

"Get them, get everything," ordered the Yankee general, "but meantime the work will go on."

Doubtless, everything was officially straightened out in due course, by which time the wires were already in Paris.

Fourteen battalions of Bell telephone, telegraph, and radio men enlisted for service, numbering a total of more than twenty-five thousand skilled workmen and engineers, one-half of whom served overseas. During the period of American activities in France

about two thousand miles of poles were set, carrying twenty-eight thousand miles of wire, with three thousand additional miles strung on French poles. Besides this so-called permanent construction our men strung forty thousand miles of wire on the combat lines. In the permanent line system were two hundred and seventy-three exchanges, the larger of which were operated by American girls, especially enlisted because of their ability to speak French. The first detachment of these sailed early in March, 1918. President Vail from Jekyl Island sent them a message of farewell, and Vice-President Kingsbury delivered them an address. Their swiftness and promptness at the switchboard was a revelation to the French girls—an example which some of them may have found profitable. General Pershing referred to them as his best enlisted soldiers.

It was a matter of considerable regret to Theodore Vail that he could not be personally more active in the war preparations. His great weight and a lingering weakness of his heart made it necessary for him to be fairly quiet. He would have liked to visit the camps oftener; he wanted to give closer attention to the practical work. His activities were chiefly confined to sending encouraging messages and gifts to those who were going away, or were already overseas, and to making an occasional address in the cause of patriotism. In one delivered before the League for National Unity he took up the matter of unconsidered criticism, always plentiful during any great national crisis. In the course of his remarks he said:

Discuss freely if you will, but only on the basis of full knowledge of every action, not on hearsay or prejudice. Criticize constructively, but do not criticize without knowledge, or destructively. Always remember where responsibility lies and action must originate, that many things which control cannot be known by all. In this way we can make our help and the help of all more efficacious; in this way only can we win this war without increasing the sacrifice.

Dispassionate discussion and constructive criticism with a full knowledge of facts and a full understanding of the objective, whether about things done or about to be done, or methods of doing, cannot but be helpful. Impassioned prejudiced criticism, even if more or less justified, is not corrective—it immediately arouses defense and intensified self-justification. Without knowledge and understanding, discussion and criticism can but be absurd, fallacious and entirely misleading.

England's special envoy, Lord Northcliffe, came over, and while from reports, magazine articles and the like, Theodore Vail had conceived a rather unfavorable opinion of the distinguished Englishman, he quite altered this conception on personal acquaintance. He gave Northcliffe a special exhibition of the transcontinental work, with the pictures and the radio, all of which Northcliffe enthusiastically declared to be wonderful beyond anything he had seen before. The two became good friends during the brief period of their acquaintance, and President Vail presented to his guest a miniature telephone, scarcely more than an inch long, but practical, capable of transmitting as well as receiving speech, a really marvelous bit of workmanship.

"Theodore Vail," Northcliffe said, "is the most interesting man I have met in America, and I believe by far the greatest."

It was an opinion shared by many at this time,

and it was not infrequently said by men in business and financial circles, that but for his age and uncertain health he would have been a logical candidate for the Presidency of the nation. It is unlikely that he was stirred by any such ambition. Once during a game of solitaire he said:

"I never could understand the lure of political life —not since my experience in Washington. I have thought sometimes I might enjoy being a Governor, or a senator, but when I remembered all the associations of such a position and the steps necessary to reach it my enthusiasm cooled."

There were not many guests at Speedwell that summer, and his birthday was a quiet affair. One incident of it, however, seems worth remembering. The boys and girls in the village gave him the usual reception on the Tea Shoppe grounds. The morning had been rather cloudy, but it had not rained, and when we reached the grassy slope the children were assembled in holiday attire, many of them carrying bouquets. The effect was striking—that of an animated flower garden.

As Mr. Vail stepped out of the car they crowded around him and thrust flowers into his hands. The sun that had been obscured suddenly broke through; the scene became vividly brilliant; his white hair, for he was bareheaded, shone like silver. They called "Happy birthday!" to him, and showered him with roses. He stooped down to those who crowded about him and tried to respond to their greetings, but his voice broke—the tears ran down his cheeks. They demanded a speech. Nothing for him could have

been harder, but he did manage to say a few words.

"You are soldiers," he said, "in a free country. Do you know what a free country is? It is a place where you can own a colt, or a calf, or a lamb and no one can take it away from you. You are soldiers because you are busy, helping to raise food for those who are fighting to keep your country free."

He asked how many were helping to raise something to feed others, and every hand went up. It was one of the most beautiful moments that ever came into his life.

Lyndon prospects were not particularly bright at this time. The Agricultural School, his fine gift to the state, had been none too well conducted. Political rivalries and wrangling had brought the usual results. The property itself had been allowed to run down; the live stock, which he found was not being well cared for, he had taken back, under the terms of the gift. He foresaw that unless there was speedy improvement the dream which was to have been one of the crowning things of his life was likely to be dissipated in failure. It made him unhappy at a time when happiness so largely concerned not only his mental comfort, but his physical health.

Chapter XLVIII: Government Control

WITH the beginning of August, 1918, Theodore Vail's opportunity for war service came. There had been recurrent talk of the government at Washington taking over the wires for the duration of the war, with the possibility of government ownership. Mr. Vail had earnestly hoped that nothing of the sort would occur. The telephone and telegraph companies were already doing everything in their power; he feared that government control would not only impair the efficiency of the service, but the value of the great properties which had required so vast an expenditure of time, energy, and money to create. In one of his annual reports he wrote:

> Government administration is more or less a game of politics, and while with government operation it may sometimes be possible to have efficiency, it will always be impossible to have economy.

Familiarity with political patronage had made him skeptical. Even at its best it meant inexperienced men in command, with changing and conflicting policies. The telephone must have one head with one policy. However vast in extent, it was essentially a one-man concern; otherwise, the close interrelation of parts, the sense of responsibility to some particular human being—the personal equation—would disappear, and with it an essential factor,

perfectly co-ordinated service. He reflected that he might be allowed to remain in nominal control, and how difficult it would be to fight against political inexperience and intrigue. Even that hard opportunity might be denied him, for it had been rumored that Postmaster General Burleson had declared that if the government took over the wires his "first move would be to get rid of that man Vail." Burleson had offended the newspapers by his postal rulings, and was steadily denounced as incompetent, arbitrary, socialistic, and what not. He might be all of these. Who could tell? Perhaps he had made the statement, as charged. Theodore Vail saw the great institution to which he had given so much of his life and strength menaced by what seemed impending ruin.

When week after week went by, with no action on the part of the government, he began to have something like hope that prevailing conditions would not be disturbed. Even when in July Congress authorized the President to take over the wires, it was regarded as a measure providing for a possible emergency, with no immediate significance. But then one day the blow fell. On July 24th President Wilson issued a proclamation assuming control of the various telephone and telegraph systems, they to become a part of the postal department, under the supervision of the Postmaster General, Albert S. Burleson, "from and after twelve o'clock midnight on the 31st day of July, 1918."

Theodore Vail was alone in New York when the word came privately from Washington. It was announced in the evening papers, and Mr. Marsters

telephoned it to Mrs. Marsters in Vermont. She was deeply concerned for her uncle. She feared that he might be disturbed and upset; perhaps, with the heat, made ill. In the evening she called his apartment; he answered with his customary cheerfulness. She did not mention what she had heard, but called greetings over the wires:

"Hello, Uncle Doe! How are you?"

"All right. How are *you?*"

"Aren't you awfully hot, down there?"

"Oh no! Nice and cool."

Stout as he had grown, he still never complained of the heat.

She called again:

"What are you doing?"

"Oh—just playing a little solitaire."

That was all. Serene, and at least outwardly untroubled, he was playing "a little solitaire," and thinking it out.

Summoned by telegram to appear in Washington early the following week, he appointed Monday, the 29th, as the day. Dining with Mr. Ellsworth, at the latter's home in Bronxville, on Saturday evening, and discussing the situation, he said, reflectively, in conclusion:

"If you know all the facts, and make a proposition based on all the facts, and fair to both parties, all you need to do is to wait for the other party to come to your terms."

It was the summary of his life-long policy.

President Vail, pausing on the outer steps of the Post Office Building, in the blazing July sun, took

out his big handkerchief, mopped his face, and, leaning on his cane, said to his companions, Vice-Presidents Kingsbury and Bethell:

"Well, I never in my life felt so helpless as I do at this moment. These people we are going up to see have got us entirely in their hands—they have taken over our property and probably intend to keep it. They can do what they please with us, and we cannot help ourselves. For once in my life I am completely at sea."

They entered and ascended to the rooms of the Postmaster General. Mr. Burleson was waiting for them; First Assistant Postmaster General Koons was also present. Greetings were exchanged, and the Postmaster General came at once to the business in hand.

By an act of Congress, he said, and by proclamation of the President, the government had taken over the wires, and he had been designated to supervise the various systems. He had not sought the position, he told them, and was simply serving as a trustee to preserve the property and to return it in as good condition, if returned, as when taken over; that the sole purpose was to give the public the best possible service and carry on the work the company had been doing; that the department was at a disadvantage, not having been connected with the service, which had been handed to them overnight, so to speak. He added that, notwithstanding the fact that he had been a strong advocate of government ownership, it was not his purpose to conduct the service with this end in view.

In a personal account of this meeting which Mr. Burleson gave to the writer of these chapters, he said:

"I had never seen Mr. Vail up to that time, and I began to get a new impression of him, which grew as I proceeded. I thought he had a fine, generous face, and that he was a man to whom I could speak with great freedom. I proceeded to assure him that there would be no attempt on my part to promote government ownership—that I wanted him to know and feel this, and to accept my word for it—that I was simply trustee of the property, holding it for them until a different policy should be determined upon. I would protect their property in every way, I said, and endeavor as far as possible, considering war conditions, to return it to them as financially sound as when it was taken over. I said that I did not know them and they didn't know me, but that the future would disclose if I had sufficient force of character to protect the property and serve the public, as well as the special interests of the government in time of war. I closed by inviting their co-operation and good will. Mr. Vail, who had listened attentively, replied:

"'Mr. Burleson,' he said, 'we fully realize the exigencies that have forced the government to take action, and it is our wish and purpose to co-operate and assist in every possible way. The officers of this company will do everything in their power to make your work a success. We believe that every employee will render the best service, and all will be done to carry out the plans and wishes of this department. Any views of our own as to government ownership will be brushed aside, and the government will receive

the same warm and hearty support as if this matter had never been agitated. In fact, we believe the government has a golden opportunity to show what can be done through the affiliation of telephone and telegraph service of the various competing companies. Much can be accomplished that could not be accomplished under private ownership, because of antagonism and competition. As to the preservation of the properties, our interests are exactly the same. If the telephone and telegraph companies are to pass into government ownership, certainly it is to the interest of the government to maintain them in as high a state of efficiency as possible. If they are to be returned to us, then it is equally necessary, in order that the public in the future may be properly served, that the properties be returned to us in as good order as possible. We are here to tender you any assistance we can render, and are entirely at your service.'

"Every word that Mr. Vail said showed an entirely unselfish point of view, a desire to serve the government and the public at whatever cost, and I became more deeply impressed with every moment of the interview. I had thought of him as in a class with the average railroad president—an autocrat, interested only in the success of his road as shown by profits accruing to his stockholders, and also largely concerned as to the continuance of his salary. Mr. Vail made no attempt at any stipulations, as to himself or anyone else.

"We all parted the best of friends, and I think in the realization that we had reached the beginning of a better understanding. Mr. Vail confided to me

next day that he had come with the feeling that the telephone system was going to be arbitrarily managed; that its properties and service would suffer; that it would end in government ownership, with the wire companies as a gigantic political machine. We had many and frequent interviews, many conferences regarding matters of stupendous importance to his properties, and there was never the slightest clash or friction between us. The contrast between Mr. Vail's attitude and that of some of the railway presidents can hardly be imagined. I remember when he came to discuss the compensation to be allowed his company, he said:

"'You fix it, and I'll be satisfied.'

"He manifested such a whole-hearted purpose to co-operate in everything that about the second or third interview I asked him if he would act in the capacity of confidential adviser and counselor in all matters pertaining to the telephone—in fact, to continue his work with its new responsibilities. He hesitated because of his age, but finally said that he had only one desire, which was to assist in the prosecution of the war, and that he would accept the position. I had thought that there might be some criticism from the opposition newspapers, but there was very little. The newspapers never liked me, but they always liked Mr. Vail. We became the best of friends, and there was never the slightest misunderstanding between us. His assistance to the government was invaluable, and he never made a suggestion during the entire period of our association that was in the slightest degree tinged with selfishness and that was not

prompted by the highest motive. I grew very fond of him and had the deepest respect for him. When I saw him last I tried to tell him how deeply grateful I was for everything. I had thought of him as a man with the 'public be damned' idea. I had found him to be a great, unselfish patriot, a warm and true friend."

Vice-President Kingsbury, once referring to this Washington meeting, declared that Theodore Vail's gift of handling a great situation, by inspiring confidence through absolute frankness and sincerity, had never been more remarkably displayed than during the Washington conference. He had entirely disarmed, not an enemy, but what might easily have become such. At no point had he invited antagonism. That Vail himself realized their errand had not failed is shown by a remark made to his companions as they left the Post Office Building. Once more he paused on the outside steps and mopped his brow with his great handkerchief.

"Well," he said, "I feel a good deal improved. I was never better treated in my life. I believe they are just as interested in the property as we are. I went in there helpless; I have come out feeling that everything is all right."

Chapter XLIX: In Government Service

TO the employees of the American Telephone and Telegraph and associated Bell companies President Vail issued a general statement, setting forth the facts of the change. It closed as follows:

To all who are identified with the Bell companies—who have shown your fine sense of obligation and your loyalty and fidelity to the country, to the public service and to the property in the past, and to whom the credit is due for the prestige and position of the companies in the public eye:

It is asked, and it is not too much to ask of you, that same loyalty, fidelity and devotion to the service under the new order of things. On your behalf such loyalty, fidelity and devotion to service have been promised, knowing full well the spirit in which you would meet and respond to the request.

To do one's full duty in each position is the greatest obligation resting upon every person and is also the greatest opening to future preferment.

Throughout the country the newspapers commented editorially and in terms of approval of his past policies and present attitude. The New York *Times* said:

Mr. Vail was never a believer in the right of big business to go its way unhindered. No big business man ever submitted to control more loyally, and regulation and control of private operation was his idea of what public interest required.

It quoted from his annual report of the previous year:

"Whatever can be done through direct operation can be done more certainly through control and regulation of private operation,

thus combining the potency of the sovereign with the initiative and interest of the subject."

And now Mr. Vail is in double harness with a politician. It is a cross-matched team, but it may work better than it looks, if Mr. Vail asserts himself as he has hitherto. That he should palter with his lifelong record is not to be believed.

Some of the papers amused themselves with the thought that now, under government direction, he was going to be permitted to carry out a policy which had been forbidden a few years earlier. The *Times* said:

It is odd that Mr. Vail should be engaged in practicing under Government monopoly what was condemned when he was a private operator. But the inconsistency is Government's, not Mr. Vail's. The wire services would have been co-ordinated under regulation long ago if Government had not prosecuted Mr. Vail's attempt to do it. What there is new about the proposal is not the Postmaster General's, and all that is good about it is Mr. Vail's.

The new responsibility and the many necessary trips to Washington during the heat and stress of that last fierce summer of the war were not without their effect on Mr. Vail's health. His nerve and resolution kept him up, his determination to shirk nothing made him aways ready to respond. First Assistant Postmaster General Koons, with whom much of his business was transacted, recently spoke to the writer of Mr. Vail's untiring energy, his anxiety to forward the work of the administration. Mr. Koons added:

"He never lived in the past; never spoke of what he had done or accomplished. His whole thought was the plan of the moment and the future—what could be done to make our work a success. It was the most pleasant association I ever had."

Toward the end of October Mr. Vail was strenuously advised by his physicians to retire at least temporarily from the field and find some place of quiet in a suitable climate. Key West was recommended, and President Carlton of the Western Union offered to take him there in his private car. I was invited to join the excursion, and there followed a quiet fortnight in that half-Cuban and curiously American cigar-making community, dropped down in the Florida seas.

He was not entirely away from business; each day he had a Washington wire and discussed with the Department matters of importance. Mr. Carlton returned to New York almost immediately; the days passed, one pretty much like the other, with driving and reading and looking out the windows at the flying-machines that whizzed about in great numbers.

The hotel itself left something to be desired, especially in the matter of food. Its dining room was across the street, and the bill of fare was made up mainly of fish and turtle steaks, which answered well enough for a time, but, knowing Mr. Vail's customary range of diet, I became concerned for his comfort. The situation gave me a new light on his character. Exacting as he was in the matter of food and service, where these things were properly obtainable, smartly impatient at any sign of laxity under more favorable conditions, he was a perfect monument of endurance in the face of the inevitable. His breakfasts were sent across to him, and remembering the perfection of those at Speedwell, as well as his choiceness at a variety of hotels and restaurants, I was rather horrified to

note the assortment on his tray: pallid eggs, pasty cereal, muddy coffee, watery milk—everything but the butter and grapefruit cold. I expected an explosion.

Nothing of the sort. He ate it without a word and with apparent relish. After a morning or two I said:

"Mr. Vail, you're not used to that kind of food. How can you eat it?"

"Oh," he said, "it's pretty good, and they can't do any better, I guess."

At all events the air was good for him. His appetite did not fail, he slept well, and was generally in fine spirits. During the last week I persuaded him to put in a part of each day making notes. Then we went across to Havana, where good food was plentiful enough, with much to see, and long drives daily through the island. Returning from one such drive we saw a wonderful blood-red sun go down behind the tall palm trees. Perhaps it was a symbol; for we found all the city in an uproar; it was the 11th of November, the great World War had come to an end.

From the hotel balcony we looked down on the shouting crowds, the racing automobiles, the showering confetti, the carnival of costumed dancing figures. He had thought of staying there all winter, but he said:

"Well, our vacation is over; I'll be needed in Washington."

Chapter L: Theodore N. Vail, Chairman

GOVERNMENT control of the wires was not to end as yet, but President Vail's activities became somewhat fewer, which was fortunate, for his health did not improve. As time passed it became clear that a successor should be named to carry a part of his load, which daily he found more burdensome. In June (1919) he retired as president of the American Telephone and Telegraph Company, to be made chairman of the board. He was still a power in the company's affairs without being entirely responsible for its fortunes. The selection of Harry B. Thayer to succeed to the presidency was a deep gratification to him. The two were old friends, and Mr. Thayer, for eleven years president of the Western Electric Company, and for nearly as long vice-president of the telephone company, was closely identified with telephone affairs.[1] Additional vice-presidents were also chosen—among them John Carty, who was succeeded as chief engineer by Bancroft Gherardi.

There were still many things to hold Mr. Vail in Washington, and it seemed that for the first time he would not be able to attend the Commencement exercises at Lyndon. To Mr. Mathewson he wrote:

[1] Mr. Thayer's connection with the Western Electric Company began in 1881. During the years that followed he had held practically every position of command in that corporation.

There are a thousand and one things here tugging at me. I may have to be in Washington. . . . There is a conference of the utmost importance which I should attend if possible. I hope another year will find us settled down to normal conditions, and enjoying life as never we did before.

I think for a man who made a firm resolution not to be tied up in any business after he was 40 to be struggling along at 74 is a sad commentary on resolutions made in early life.

It may be, too, that his enthusiasm had waned. The Institute under Mr. Mathewson was a success, but the Agricultural School in which he had taken such pride was going from bad to worse, under state ownership. Undoubtedly this distressed him, though apparently he accepted it as he did the other inevitabilities of life, with calmness and few words. In a letter that he wrote to the governor of the state he said, in conclusion:

I would rather see the property gradually sink to the condition of the so-called abandoned farms, for which a better term would be neglected farms of shiftless proprietors, than to have it carried on in any half-hearted halfway manner. I would rather see those side-hill properties called "Vail's folly" than to see the youth of Vermont going year after year to an institution which fell short of what it should do for them and fastened on to those youths the habits of work and of thinking that would be enough to make them wanting in all that makes for success.

He attended the joint Commencement, after all, and delivered his customary address. In it he spoke of the war that was ended and urged them in the new day of peace which lay ahead to "*do* the best *with* everything, and to *make* the best *of* everything." It was a wise homily, one of the best he had ever delivered. At one point he said:

If one small part of all we read or hear about the moral obliquity of others is true, the world needs a reformation which it is not getting, and if it is not true then there is still more need of a reformation, but of a different nature, applied in a different way. Neither politically nor socially should it be necessary to mistake or mislead as to vital facts, and certainly the preservation of the morals and probity of our people is vital.

And further along:

I am not pessimistic. I do not fear anarchy in this country. Destructive anarchy can only come in the train of long suffering and deprivation and oppression. We have none of these in this country, fond as are the parlor- and arm-chair socialists, and the well paid and well fed demagogues of stating it.

He closed:

If you think you have a cause, if it is good, you should be able to convince and lead others. Don't force it upon them—that is serfdom, not democracy; and above all there is one rule by which the world can be made safe for democracy and perfect to live in: "Do unto others as ye would that others should do unto you."

It was to be his last message to them; it was proper that it should embody in its final sentence the chief standard of his own lifetime.

Living at Speedwell Farms was greatly simplified that summer. The country was still on a war basis as to food, and the Speedwell table, though abundant, had curtailed its elaborate courses and service. Dinner was now in the middle of the day, and one did not dress for the simple evening meal.

The seventy-fourth birthday party was very quiet, with only a few guests. As usual, Mr. and Mrs. Loomis came; also Mr. Baker and John R. Morron, who drove over from the latter's New Hampshire home.

It was a gay occasion, nevertheless. The "chief guest" was in high spirits. Certainly he showed no appearance of failing health. He moved about actively and lightly for one of his weight; he laughed and joked, and was as merry as a boy.

"This is my day," he said; "for twenty-four hours I am going to be a spoiled child."

At the birthday dinner Mr. Baker recalled how once he and Mr. Vail, directors of the New Haven Railroad in a dark hour, had paid the penalty of being in bad company, had been arrested, and obliged to give bail. Mr. Baker said:

"I never had anything to humiliate me like that—after seventy-three years to have a bail hanging around my neck. And the worst part of it was the amount—five thousand dollars. It made me ashamed that they considered me of so little value."

Mr. Vail said:

"Yes, and that was what I got for trying to do good. I went on the New Haven board with the idea of combining all the roads in New England and improving the service, and I came near getting into jail for it."

Chapter LI: The Return of the Wires

GOVERNMENT control did not ripen into government ownership of the wires. At the end of the year, August 1, 1919, the government was willing to hand the wires back to their owners, apparently satisfied that nothing was to be gained, either in the way of profit or public service, by continued control. Postmaster General Burleson wrote Mr. Vail the following letter:

WASHINGTON, *July 30, 1919.*

MY DEAR MR. VAIL:

I have just signed order No. 3380, which brings the period of governmental control of the wire systems of America to an end. As my first act after signing this order, I am writing to express my heartfelt appreciation to you for the splendid aid you have given as my adviser during my administration of this responsible trust. At all times, with an unselfishness that commands my admiration, you have consulted me in the interest, not alone of this important service as a whole, but of the government of your Country as well. I cannot confer a D. S. O. on you, but I can say that you deserve the honor.

One of the compensations that have come to me as a result of the responsibility imposed upon me by the President as director of the wires has been my acquaintance with you, which has ripened into a feeling of high regard and friendship.

May I be permitted to express the hope that in the future the wire service will be given the same successful control and direction which it has been so fortunate as to receive for years under your wise administration.

Wishing you many, many years of health and happiness, I beg to subscribe myself,

Your sincere friend,

A. S. BURLESON, Postmaster General.

Chairman Vail, in Vermont, was preparing a similar letter, which was written and mailed before the letter from Mr. Burleson was received. It was, however, in effect, an answer. It follows herewith:

SPEEDWELL FARMS,
LYNDON, VT.
July 31.

DEAR MR. BURLESON:

Now that our official relations are separated, I wish to express to you my appreciation of all that you have done to preserve and maintain the essential service of the telephone system and to conserve the property and the organizations, which was a pre-requisite to the giving of any kind of service.

The conditions under which you contended were such as never before existed, and I hope never will again.

For our patrons, for the proprietors of our system, and for our organization, please allow me to express appreciation, and also express the firm belief that the public will fully concur in this when it realizes that every deficiency in the service experienced by it, has as an alternative some efficiency in the duty, and obligation to the country's service.

Very sincerely,

THEO. N. VAIL.

With the exchange of these letters Theodore Vail's public service may be said to have ended. In the years of his activities he had seen the great industry of which he was the head, grow from nothing to a corporation comparable in wealth to the government treasury, with a length of wire sufficient to loop the moon more than fifty times, or to span one-fourth of the bright pathway to the sun.[1]

[1] For those to whom figures mean something tangible, the following from the reports of that year (1919) may be of interest:

Total assets of the Bell Telephone System in the United States, $1,530,974,930. Total wire mileage of Bell-owned companies, 24,162,999, of

He had seen, and in some measure been a part of, other great world development. During his years of activity there had arrived a perfection of railway and steamship travel scarcely dreamed in his youth; he had seen the invention of the self-binding harvester, one of his own early conceptions; the world illumination by electricity that had turned such a street as Broadway into an Aladdin's garden; the invention of the phonograph and the cinematograph with their magic power of preserving sound and motion—of perpetuating the past; of the multiplex telegraph by which many messages, both telegraph and telephone, can be sent simultaneously over a single wire; of the gasoline engine which had developed a new world of transportation and given wings to the human race—the years had brought these and many other marvels besides those of his own immediate association. What an age it had been! And in its midst he had stood out a great and vital figure. No one's part in it had been more important than his own. Now, at the end, the war had given him an opportunity to close his life work in a manner fitting as to character and size.

The fact that telephone service had run down, that connections were no longer so promptly made and that the public and the press were full of complaints, was a sorrow to Theodore Vail. This deterioration was not chargeable to government control, but to

---

which 14,769,237 miles were underground. Total number of telephones in use—Bell and Bell connecting, 11,795,747, with 30,800,000 average *daily* connections.

In New York City alone there were 3,254,800 miles of telephone wire, a length considerably greater than that in the United Kingdom of Great Britain, the telephones in use, about 900,000, being approximately the same.

the fact that in every department war had depleted the employees. As we have seen, thousands from the Bell ranks were serving in the battalions on both sides of the ocean, and they were not easily replaced. In fact, they were not replaced at all—their positions were kept for them. Of the operators, the girls, a great number had gone into other employments, attracted by temporarily higher pay, and these necessarily had been replaced, when they were replaced at all, by young women of inexperience and brief training. For another thing, the Western Electric factories, filled with war orders and short in workmen, had been unable to turn out apparatus fast enough to keep up with the demand; thousands were calling for telephones which could not be supplied. These things had been inevitable, under whatever management.

Government control had, however, produced one noticeable result: a deterioration in the morale of the operating service. The feeling of accountability to no one in particular, but to the nation at large—a kind of general personal irresponsibility—had stimulated among a certain element something of the indifference and lack of consideration that one expects to find at the post-office window, but that had been long unknown to the telephone service. The "voice with the smile" was becoming less and less frequently heard, and what with the unavoidable inattention, the feeling grew that the great telephone system, so long the nation's pride, had fallen upon evil days. A public accustomed to getting a reply instantly upon picking up the receiver growled and swore at having

to wait five minutes or longer for attention. Customers willing to wait that time at the grocer's, where there was a similar help shortage, had no patience left for the telephone. The newspapers jeered and denounced, and wanted to know why something could not be done about it. Chairman Vail knew that something would be done, and very soon. In a circular issued to the public, entitled, "To-day Telephone Properties Are Returned," he exonerated the government and told of the great drain made by the war upon telephone ranks and resources. Closing, he said:

> The return of the property comes in the very midst of this race between an overpowering demand and an upbuilding of a system whose growth was held back and whose forces were scattered by the vital needs of war.
>
> Much progress has been made in the upbuilding of this system, but far more is still required to meet the swift growth of business; and also to give "first aid" to every other business and every other service struggling against an unprecedented demand.
>
> The prosperity which creates this emergency in service creates also a scarcity of those desiring employment in the service.
>
> Under such conditions telephone service generally has not been and could not be up to the pre-war standard. It is beyond human power to immediately overcome the handicap which the situation imposes.
>
> There are no people in any public or private endeavor who are working more tirelessly or strenuously for the common good than those of the telephone companies. Service has always been given. More of it must be given and it must be improved. That improvement in some cases will take months. Eventually service must win the race with demand.

He would not live to see the service restored to its old maximum, but he felt sure that the day of rehabilitation would come.

Chapter LII: The Westward Slope

HE spent a good deal of time that summer at Speedwell, more than he had been able to spend there during recent years. With the return of the wires and his retirement from the presidency he experienced a considerable sense of relief, and the days of his last summer in the big house went quietly by.

Cool weather came and he returned to his Fifty-ninth Street apartment and put himself under medical care, for while he was not visibly ill at this time, or suffering acutely, he had symptoms that gave reason for anxiety. Generally, his appearance was as usual, but there were moments when his face took on a gray, drawn look, when he himself confessed that he was getting tired and old. The arrival in the Marsters household, October 6th, of Arthur A. Marsters, Jr., a sturdy boy, with the Vail eyes and forehead, was an event that brightened this period.

"I'll never die while that boy is alive," he said as he looked at him.

Just before the holidays, by the advice, or at least with the consent, of his physicians, Mr. Vail made a sea voyage, a brief trip to Porto Rico, accompanied by Mr. and Mrs. Ellsworth. Perhaps the excursion benefited him, for he seemed about as usual upon his return. The sudden death of Vice-President N. C. Kingsbury at this time came as a severe

shock. He was much attached to Kingsbury, and had great confidence in him business-wise.

It was now time to go to Jekyl Island, but Mr. Vail lingered in New York until well into February. It was the evening of the 24th when he finally started, accompanied by Mrs. Vail and myself, and by his valet, Ripa. He boarded the train in excellent spirits, and apparently suffering no inconvenience as to health, a favorable condition that continued throughout the next day. He had the drawing-room, and played solitaire most of the way, talking cheerfully and apparently enjoying his meals. We gambled mildly on the result of his games, as we had often done in the past, and it amused him to find that he was a few pennies ahead toward evening when he put the cards into the little worn leather case which he always carried with him. We did not guess that those were the last games he would ever play.

The road was rough that night, and he was suffering considerably next morning. On the short rail trip from Thalmann to Brunswick and on the boat from Brunswick to Jekyl Island his discomfort increased. He drove immediately to his cottage and to bed, and Doctor Dandy of Johns Hopkins, the club physician, whom he knew very well, took him in charge. Later in the day when he seemed to feel better he went for a short drive, but it brought a return of his suffering. He came back to the cottage and did not attempt to go out again. His immediate trouble was not the old heart weakness, but digestive and other internal complications. He had always drawn heavily on his health account, and the bills were coming due.

He was very patient during the weeks that followed. His brain had never seemed more active, never more alive with plans for the upbuilding and progress of the great industry of which he so long had been the head. Yet he was obliged to lie there on a bed of pain and inactivity. He accepted the inevitable, as he had always accepted it, without murmur or complaint of any kind. He was ready to talk and had a pleasant word for everyone that came. His old friend, George F. Baker, staying at the clubhouse, was his favorite visitor. He came over every day, and during his call Mr. Vail seemed to renew life and strength. They were of the same world, with the same interests, the same grasp of great business problems. They talked of finance and politics, of the coming presidential campaign; I think those visits paid him by Mr. Baker were his greatest comfort during those weary days.

Nearly every day he telephoned to New York for the latest news and for any fresh developments in the affairs of the company. One day he announced with apparent satisfaction that arrangements had been completed for a large addition to the headquarters at 195 Broadway. He was careful that the seriousness of his condition should not be known in New York; or to Mrs. Marsters, to whom he regularly telephoned—always cheerfully, even gayly. He dozed a good deal, sometimes reading a little, and occasionally when I sat with him talked quietly—reminiscently and reflectively, almost as one thinking aloud. Often there was no particular connection in his observations, being made between naps, so to

speak, and those that I preserved as characteristic and worthy are here set down in about the same way, without order or special relation. Once when he had been speaking of politics he said:

"The day is past when you can vote for the man; you have to go into a party. A party must have principles and get a man that will stand for them."

Again, speaking of himself:

"I have a blind spot; when I want to do anything I cannot see anything in reasons or in arguments offered against it. That blind spot has cost me a good deal of money."

"My bashfulness has been painful to me. I hate to meet a stranger to this day. Not so many years ago it has happened that I have started to call on somebody I did not know and turned around when I reached the door rather than go in. Once in early days I arrived in New York at night and discovered that I had no money. There were at least two places where I could have got plenty, but I preferred to walk the streets all night rather than go and ask for it."

"Everything that I have done that was a success had a thirteen in it somewhere."

"I believe I have been as much interested in machinery as in anything. I never saw a machine that I did not try to think of an improvement on it. But I should not have made a great success as an inventor. An inventor must be a man of single purpose, a one-idea man. I was not that kind. A phre-

nologist once told me that I had too many ideas—never knew which one to take. He also said I should be a preacher, that my forte was in convincing people. Perhaps he was right; I know I could not advocate a thing I did not believe in myself."

"When I take hold of a thing I want the men under me to realize that they are doing the work and I am taking the responsibility."

"I think one of the most valuable qualities in a man is an ability to give his views freely, together with the reasons for those views. If this quality is coupled with a readiness to accept the views of others, when such views are founded on better reasons or must be adopted from necessity, the quality indicated is all the more valuable."

"The commander of an army should not be down in the trenches with the men—he should be where he can overlook their movements."

"It is always noticeable that people like to look for some obscure or involved explanation for every happening, terrestrial or celestial. Explanations, as a rule, are simple, and, because simple, overlooked or regarded with contempt."

"Personal appearance is like a good letter of introduction; it does not carry the man through, but it gives him a start in the right direction."

"If I had a boy I'd have him drilled in the common branches during his first seven years, and I am not sure but through the next three. Schools teach too much science and unpractical things. Young men grow up to think the world owes them a living, to be made by their wits."

He had a good reading knowledge of French, and particularly enjoyed the light fiction of that language. Speaking of this one day he said:

"You can read things in French without a shock that you can't in English, because you don't feel in an acquired tongue the traditional meaning of certain words and phrases. There is always a buffer in translating, however apt you are at it. Your mental and moral force does not get the direct shock."

His old tribal feeling for kinship remained strong. More than once he inquired when Henry Vail, the retired publisher, was expected to arrive. Finally I asked:

"How closely is Henry Vail related to you?"

"Well," he said, "two Vail brothers came over sometime in the sixteen hundreds; he descended from one of them and I from the other."

Speaking of money conditions to Mr. Baker, he once remarked:

"All wealth is nothing more than industries kept alive. What under heaven would the Western farmer do without banks like the First National to conduct the financial machinery?"

Mr. Baker's eightieth birthday came, and Mr. Vail wrote him a congratulatory note, his last attempt at letter writing:

Dear Mr. Baker:

Congratulations to you, your associates and the country at large, not for your reaching eighty years so much as for what you have accomplished in steadying the great world movement forward during those eighty years.

I trust there will be many years more, not so much of active participation, but rather of enjoyable and interesting observation of the future.

You cannot fully appreciate my disappointment in not being present with you to-night.

Theo. N. Vail.

The effort was more than he bargained for—almost more than his strength permitted. His first draft, unfinished, remains, its margins filled with the curious circles and shadings so often mentioned in earlier chapters.

He came into the living room for his meals, but it was with considerable difficulty. Sometimes he commented with a good deal of emphasis, but he never complained. At times we asked him if he would not like the cards for a game of solitaire. But he always refused them—an ominous sign. We could not see that he was failing; apparently he had lost none of his flesh, and most of the time his color remained rich, his eyes bright. But if he improved it was very slowly, and there came moments of discouragement.

"I am just a poor old wreck," he said one day as I came into the room.

I assured him that he was looking well, which was quite true.

"Yes," he said, "but you told me that yesterday, and I had a bad night."

I had never known him to confess defeat before, nor was it really that, for within the hour he was

talking to President Thayer in New York, discussing telephone finances, and new plans, with all the old vigor and spirit of conquest.

He often spoke of Mr. Thayer with deep appreciation. Once he said:

"I have been worried for three years over what would happen if I suddenly went out and the wrong man was put in my place. Thayer is a great comfort to me."

Chapter LIII: Where the Way Ends

I RETURNED to New York at the end of March, and about ten days later, when it seemed that he was really better and able to make the journey, Mr. Vail was taken by Doctor Dandy and Mrs. Vail in a private car to Baltimore, for observation and special treatment at Johns Hopkins Hospital.

It was Sunday, the 11th, when he reached there. He had not stood the journey well, and it was clear that his chances now were very slender indeed. Mrs. Marsters arrived from Morristown. He recognized her and spoke to her, though for a greater part of the time he was dozing or was dulled by opiates. During the last day, which was Thursday, his mind wandered and he was living again in the past. And now here is a curious thing—a characteristic thing: as the end drew nearer there were moments when he spoke out briskly, giving orders—not to men, but to horses, his four Kentucky grays—Colonel, Major, and the others. Again he was driving them; again, as thirty years earlier, he had met defeat, and was going out to new adventures, four-in-hand. He died next morning at a little before six o'clock—April 16, 1920.

His old friend, Edward Loomis, came for him with his private car, and on Sunday, two days later, one of the most beautiful April days ever seen, an assembly of those who loved and honored him gathered for the simple services in the little Parsippany church

which he had known since boyhood, and walked behind the coffin to his grave on the grassy hill.

The long journey was ended, but the great work he created remains, never to come to an end so long as men buy and sell in the market place and social life endures.

Appendix

CERTIFICATE OF INCORPORATION, AMERICAN TELEPHONE AND TELEGRAPH COMPANY

WE, Edward J. Hall, Junior, of the City of Elizabeth, State of New Jersey, Thomas B. Doolittle, of the City of Bridgeport, State of Connecticut, Joseph P. Davis, and Amzi S. Dodd, of the City of New York, do hereby associate ourselves together for the purpose of constructing, buying, owning, leasing, or otherwise obtaining, lines of electric telegraph partly within and partly beyond the limits of the State of New York, and of equipping, using, operating, or otherwise maintaining, the same; and of becoming a body politic and corporate under and by virtue of the provisions of an act of the Legislature of the State of New York entitled "An Act to provide for the incorporation and regulation of telegraph companies," passed April 12, 1848, and the various acts amendatory thereof or supplemental thereto; and of having and exercising all and every of the powers, privileges, franchises and immunities in and by said acts conferred. And in pursuance of the requirements of the various acts aforesaid, and for the purposes above set forth, we do hereby declare and certify as follows:—

First. The name assumed to distinguish such association and to be used in its dealings, and by which it may sue and be sued, is the

AMERICAN TELEPHONE AND TELEGRAPH COMPANY.

Second. The general route of the lines of telegraph of said association will be from a point or points in the City of New York along all railroads, bridges, highways and other

practicable, suitable and convenient ways or courses, leading thence to the Cities of Albany, Boston, and the intermediate cities, towns and places; also from a point or points in and through the City of New York, and thence through and across the Hudson and East Rivers and the bay and harbor of New York, to Jersey City, Long Island City and Brooklyn, and along all railroads, bridges, highways and other practicable, suitable and convenient ways and courses to the Cities of Philadelphia, Baltimore, Washington, Richmond, Charleston, Mobile and New Orleans, and to all intermediate cities, towns and places; and in like manner to the Cities of Buffalo, Pittsburgh, Cleveland, Cincinnati, Louisville, Memphis, Indianapolis, Chicago, St. Louis, Kansas City, Keokuk, Des Moines, Detroit, Milwaukee, St. Paul, Minneapolis, Omaha, Cheyenne, Denver, Salt Lake City, San Francisco and Portland, and to all intermediate cities, towns and places; and also along all railroads, bridges, highways and other practicable, suitable and convenient ways and courses as may be necessary or proper for the purpose of connecting with each other one or more points in said City of New York, and in each of the cities, towns and places hereinabove, specifically or generally designated.

And it is further declared and certified that the general route of the lines of this association, in addition to those hereinbefore described or designated, will connect one or more points in each and every city, town or place in the State of New York with one or more points in each and every other city, town or place in said state, and in each and every other of the United States, and in Canada and Mexico; and each and every of said cities, towns and places is to be connected with each and every other city, town or place in said states and countries, and also by cable and other appropriate means with the rest of the known world, as may hereafter become necessary or desirable in conducting the business of this association.

Third. The capital stock of such association shall be the sum of one hundred thousand dollars, which will be

divided into one thousand shares of the par value of one hundred dollars each.

Fourth. The names and places of residence of the shareholders of said association, and the number of shares held by each of them, are, respectively, as follows:

Names.	Residences.	Number of Shares.
Edward J. Hall, Jr.,	Elizabeth, N. J.,	Two hundred and fifty
Thomas B. Doolittle,	Bridgeport, Conn.,	Two hundred and fifty
Joseph P. Davis,	New York City,	Two hundred and fifty
Amzi S. Dodd,	New York City,	Two hundred and fifty

Fifth. The period at which such association shall commence is the day when it shall become a body corporate under the provisions of the acts aforesaid, and the period when it shall terminate shall be at the expiration of the term of fifty years from said day.

IN WITNESS WHEREOF, we, the persons above named, have hereunto set our hands and seals this twenty-eighth day of February, in the year of our Lord one thousand eight hundred and eighty-five.

EDW'D J. HALL, Jr. (Seal)
T. B. DOOLITTLE. (Seal)
JOS. P. DAVIS. (Seal)
A. S. DODD. (Seal)

Index

A

Accumulator Company, 189, 194, 195.
Agricultural School, 251, 266, 267, 316, 330.
Aldrich, Senator Nelson W., 252, 253.
Alexander, E. L., 81.
American Bell Telephone Company, 145.
American Magnetic Company, 14.
American Railway Mail Service, 52, 53, 54, 61, 63, 66.
American Speaking Telephone Company, 102, 125, 136.
American Telephone and Telegraph Company, 173, 174, 179, 180, 222, 226, 227, 230, 245.
Amerman, I. A., 66 *n.*
Anson, Adrian C., 31.
Applegate, Dr. William S., 203.
Armstrong, George, 54, 55.
Arthur, Gen. Chester A., 133.
Atlantic cable, the, 91, 97.

B

Bailey, M. V., 60, 61, 64, 66 *n.*
Baker, George F., 222, 331, 340.
Bangs, George S., 55, 56, 58, 59, 62, 63, 65, 72, 75, 76, 79, 80, 87, 115.
Barrett, John, 184.
Barton, Clara, 26.
——, Enos M., 119.
Bell, Dr. Alexander Graham, 93, 94, 95, 96, 97, 99, 102, 123, 140, 159, 261, 262.
Bell Telephone Company, 99, 115-121, 123, 124, 139, 143.
Benson, Admiral W. S., 309.
Berliner, Emil, 159.
Bethell, Union N., 236, 262.
Bigelow, Calvin D., 176, 177.
Blake, Francis, 136, 140, 159, 160, 236.
Booth, Edwin, 18.
Boston-Providence line, 161, 162, 169.
Boston to New York line, 169-172.
Bradley, George L., 111, 123, 124, 130, 140.
Brady, Thomas J., 119, 142, 143, 151, 152.
Brown, Willard S., 37.
Bryan, Samuel M., 67, 79, 190.
Buffaloes, 43.
Burglar alarm, electric, 100.
Burleson, Albert S., 318, 320, 333.

C

Cable, Atlantic, 97.
Cable letters, 247.
Cables, overhead, 169.
Call-bell, magneto-electric, 159.
——, telephone, 159.
Cannon, Joseph, 113.
Carlton, Newcomb, 246, 249.
Carty, John J., 162, 178, 233, 234, 262, 263, 264, 265, 275, 278, 279, 280, 282, 329.
Chase, John, 297.
——, Mrs. John, 252.
Cheever, C. A., 106, 117.
Cheney, Thomas P., 66 *n.*
Cinematograph, 335.
Circuit-closing devices, 159.
Circuit, the all-metallic, 162.
Civil service reform, 56, 62, 65.
Cochrane, Alexander, 226.
Condenser Telephone, 157.
Conduction problems, 161.
Conductors, subterranean, 159.

Connell, William J., 50.
Consolidated Telegraph and Electric Subway Company, 184.
Copper wire, hard-drawn, 169, 170, 172.
Cordoba, power plant, 205-210.
——, water and electrical concessions for, 206-212.
Cornish, T. E., 106.
Crane, W. Murray, 236.
Cresswell, Postmaster General John S. J., 62, 63, 67, 72.
Cutler, Charles F., 236.

D

Dandy, Doctor, 339.
Darling, Elmer A., 200.
Davis, Joseph P., 179, 183.
——, Walter G., 205.
Davison, Henry P., 252, 286.
Day letters, 247.
Death benefits, 241.
De Hart, John, 5.
Denver-New York line, 260.
Devonshire, Robert W., 101, 131, 132, 236.
Directory, Telephone, 101, 121, 143.
Dividends, 167, 168, 173.
Dodd, A. S., 119, 143, 179.
Dodge, Gen. G. M., 41.
Dolbear, A. E., 102, 154, 157.
Doolittle, Thomas B., 170, 171, 179, 261.
Douglass, Fred, 26.
"Dowd case," the, 137.
Drawbaugh, Daniel, 155.
Du Bois, Charles G., 233.

E

Eaton Telephone Company, 157.
Edison Speaking Phonograph Company, 139.
Edison, Thomas, 102, 116, 129, 135.
Eldred, H. H., 106, 117.
Elliot, Howard, 272.
Ellsworth, James D., 239.
Emerson, Ralph Waldo, 139.
Empire City Subway Company, 184.
Espenschied, Lloyd, 277, 279.
Exchanges, telephone, 101, 126, 167, 168, 223, 226, 228, 313.

F

Fast Mail service, 72-78, 84, 86.
Finley, John H., 272.
Firman, L. B., 162 *n.*
Fish, Frederick P., 227, 229.
Fleming, Robert, 211.
Folsom, Charles, 177.
——, H. E., 297.
Forbes, William H., 139, 140, 143, 222.
French, C. Jay, 66, 174.
Fuller, Edward J., 90.
Furay, J. B., 68.

G

Garland, Hamlin, 29, 299.
——, Senator A. H., 157.
Gasoline engine, 335.
Gates, "Fatty," 47, 55.
——, Gov. Charles W., 269.
Gherardi, Bancroft, 329.
Gifford, George, 137.
Gilliland, E. T., 162, 163.
Gleed, Charles S., 225, 226, 227, 228, 284, 286.
Gold and Stock Company, 102.
Grant, President, 79.
Gray, Elisha, 96, 102, 154.
Green, "Chet," 35, 69.
Greenwood, Grace, 29.
Griffin, Andrew, 49, 50, 70.
Grimes, Ralph, 36, 40.
——, Senator, 36.
Guernsey, N. T., 272.

H

Hall, Edward J., Jr., 179, 180, 227, 230.
——, Iphus, 200.
Harper's Magazine, 12.

Harris, Amasa, 177.
——, Luther B., 175, 176.
——, Senator, 157.
Harrison, Henry, 60, 90.
Hart, Roswell, 66.
Harte, Bret, 188.
Harvester, self-binding, 35, 69, 335.
Harvey, Col. George, 272.
Health resorts, 242.
Hibbard, Angus S., 180.
Hibben, John Grier, 272.
Higginson, Henry L., 236.
Hinchman, J. C., 19, 22, 23.
Hobby Club, 253-256.
Hoffman, Jake, 29.
Holland, J. G., 26.
Holmes Burglar Alarm, 121.
Holmes, Edwin, 100, 119.
——, Edwin I., 100, 106.
Holt, Hamilton, 268.
Home Project Club, 268.
Horse Creek fight, 39.
House, Col. Edward M., 305.
Hubbard, Gardiner G., 95, 97, 99, 101, 103, 105, 106, 107, 108, 117, 121, 123, 139, 164.
Hudson, John E., 174, 181, 222, 223, 225, 226.
Hughes, Charles E., 305.
Humstone, W. C., 119.
Hunt, W. L., 56, 58, 63, 66, 88.

I

Independent telephone companies, 223, 224, 225, 226.
Ingersoll, Robert G., 152.

J

Jameson, John, 89.
Jewell, Marshall, 72, 75, 77, 89.
Jewett, Frank B., 275.
Johnston, Gen. Joseph E., 157.

K

Key, David M., 89, 115.
Kingsbury, N. C., 324, 338.
Koons, Assistant Postmaster General, 326.

L

La Capital railway, 207, 210-212, 221.
Light, polarization of, 11.
Lincoln, Abraham, 21.
Loading coil, 260.
Loan service, 249.
Lockwood, Thomas D., 141, 154, 164, 165, 172.
Locomotives, first, manufactured, 4.
"Long distance" service, 161, 169, 170, 171, 172, 180, 181.
Loomis, Edward E., 239, 286, 331.
Lyndon School of Agriculture, 251, 266, 267, 316, 330.
Lyndonville Creamery, 200.

M

Madden, Oscar E., 126, 140.
Magnetic telegraph, 14.
Marsters, Arthur A., 258.
——, Arthur A., Jr., 338.
——, Theodore Vail, 306.
Mathewson House, 267.
——, Ozias D., 267.
McClellan, George B., 21.
McCrosky, James W., 206.
McGrath, Capt. Maurice J., 59, 60, 87, 88, 117, 134.
Mergenthaler typesetting machine, 196 *n.*
Merrill, Arthur R., 266.
Messenger boy, the, 245, 247.
Metropolitan Telephone Company, 172, 174.
Milburn, John G., 286.
Miller, Joaquin, 188.
Milne, George D., 141.
Mitchell, Maggie, 18.
Mohica, the, 234.
Molecular Telephone, 157.
Morgan, J. Pierpont, 222, 252.
Morron, John R., 331.
Morse, Samuel F. B., inventor, 4, 5.

N

National Bell Telephone Company, 139, 145.
New England Telephone Company, 111.
New York-Albany line, 180.
New York-Philadelphia line, 172.
Niblo's Garden, 18.
Nichols, Ernest F., 272.
Night letters, 247.
Nims, E. D., 241.
Norna, the, 188, 189, 194.
Northcliffe, Lord, 314.
Northwind, the, 307.

O

Old-age benefits, 241.
Oliverson, Captain, 311.
"One policy, one system, universal service," 128, 169, 179, 240.
Overland Telephone Company, 156.

P

Pan-Electric Company, 157.
Parrish, H. R., 212.
Pastor, Tony, 18.
Patterson cable, 184.
Pearson, Harry G., 88.
Pedro, Emperor Dom, 96, 97.
Pension system, 249.
People's Telephone Company, 156.
Pershing, General, 310, 312, 313.
Phillips, Wendell, 26.
Phonograph, 335.
Pinebluff, 37-40.
Pope, Col. Albert A., 194.
——, H. W., 165.
Postal Telegraph Company, 246.
Powers, W. I., 200.
Prall Central Heating System, 190-194.
Public utilities, investigation of, 238.
Pupin, Dr. Michael I., 259.

Q

Quinby, Judge Isaac, 5, 11, 17, 22.
——, Phebe, 5.

R

Radio telephone, 310.
Reed, Temperance P., 286.
Restaurant service, 241.
Rest rooms, 241.
Riblett, Frank, 58, 63, 64, 69, 73, 91, 92.
Righter, Aunt Mary, 20, 35.
——, Emma Louise, 34, 35, 41, 46.
Roosevelt, H. L., 106, 117.

S

Saltonstall, W. G., 123.
Sanders, Thomas, 95, 99, 101, 103, 104, 105, 106, 111, 123, 129, 130, 140, 164, 236.
Sanderson, Mabel R., 235.
Savannah, first steamship to cross Atlantic, 4.
Scott, Alfred B., 211.
Scribner, Charles E., 162 *n.*
Sick benefits, 241.
Signaling apparatus, 159.
Silsby, G. Z., 123.
Smith, Chauncey, 137.
Speedwell Farms, 175, 176, 196-203, 251-256, 270-272, 286, 287.
"Speedwell Grove," 29.
Speedwell Iron Works, 4, 5, 7, 11, 14.
Speedwell, the, 257.
Splint, Sarah Field, 286.
Squires, C. S., 117.
Star Route trial, 152.
Stickney, Mary, 286.
——, William B., 286.
Stockton, John Howard, 222.
Stoddard, Charles Warren, 188.
Storrow, James J., 137.
Stuart, Gen. James E., 47, 55, 56, 58, 59, 115, 117, 134, 135, 136.

Sunny, Bernard E., 242.
Switchboard, the multiple, 159, 162, 164.

T

Tannenbaum, H. N., 212.
Taylor, Bayard, 26.
Telegraph:
  electro-magnetic, 4, 5, 14.
  multiplex, 335.
  musical, 96.
Telephone:
  accepted form, 160.
  and Western Union, 102, 104, 129, 245-250.
  call-bells, 159.
  claimants, 154-158.
  companies formed, 123-133.
  conduction, 161.
  construction, 128, 141, 240.
  directory, 101, 121, 143.
  early finances, 98-106.
  early history, 93-97.
  exchanges, 101, 126, 167, 168, 223, 226, 228, 313.
  first line, 99.
  "goes to war," 309-313.
  government control of, 317-324, 333-337.
  independent companies, 223-226.
  installation, 128.
  in use, in 1877, 101; in 1878, 123; in 1881, 167, 168.
  manufacture, 163, 164.
  mechanical progress, 159-166.
  patents, Bell, 101, 102, 125, 137, 157, 158, 223.
  service run down, 335-337.
  stock, 141, 142, 145.
  subscribers, 101, 168.
  switchboard, 159, 162, 164.
  transmitter, 129, 136, 139, 140, 157, 159, 160, 161.
  wire, 162, 168, 169, 170.
  wireless, 274-283.
  wires, underground, 169, 170, 173, 174, 178-185.
Terrell, L. M., 66 *n.*
Thayer, Harry B., 230, 286, 304, 329.
Thompson, W. B., 150.
Thomson, Sir William, 97.
Thursby, Charles R., 207.
Tilton, Theodore, 28.
Transcontinental line, completion of, 259-265.
Transmitter, telephone, 129, 136, 139, 140, 157, 159, 160, 161.
Twain, Mark, 188, 195, 196, 273.

U

Union Pacific Railway, 37, 42, 43, 47.

V

Vail, Alfred, 4, 14.
——, Davis, 4, 5, 187.
——, Davis, Second, 5, 7, 24, 26, 47, 188, 216, 217, 219.
——, Dr. William, 8, 15, 16.
——, Emma, 7, 8, 218, 219.
——, George, 9, 48.
——, Henry, 343.
——, Isaac Quinby, 8, 24, 25, 26, 27, 41.
——, John, 4.
——, Katherine, 219, 258.
——, Lewis, 5.
——, Louisa De Hart, 8.
——, Louise Brainard, 219.
——, Mary Isabella, 8, 20, 51, 203.
——, Phebe, 5, 7, 8, 24, 203, 204.
——, Sarah, 3, 7, 25, 26.
——, Stephen, 4, 48.
——, Theodore Newton:
  agricultural plans, 205, 211.
  and opening of transcontinental line, 261-264.
  and the wireless telephone, 274.
  Argentine ventures, 205-212.
  art collector, 253.

assistant general superintendent, 66, 68.
at Pinebluff, 37-40.
back to the wires, 36.
beginning of prosperity, 143, 144.
birth, 7.
birth of son, 47.
builds a home, 48.
chief clerk of Union Pacific division, 55.
considers politics, 219, 220.
death, 346.
death of father, 187.
death of mother, 203, 204.
decides to be a lawyer, 50.
deprecates idea of his biography, 284.
diary, 15.
drug clerk, 13.
earliest recollections, 8.
educator, 266-273.
elected president of American Telephone and Telegraph Company, 230.
end of public service, 334.
engagements, 34.
enters Western Union, 17.
establishes Agricultural School, 251, 316, 330.
failing health, 338-340.
favors combination with telegraph company, 245.
financial losses, 194, 195.
first attempts at speechmaking, 253-256.
first money, 13.
for distant service, 137, 168, 173, 174, 181.
for "one system and universal service," 169.
for underground wires, 182.
forms New York Telephone Company, 119, 120.
games of solitaire, 290
general manager of Bell Telephone Company, 112, 124.
general superintendent of railway mails, 80.
gentleman farmer, 199.
goes West, 24.
interest in telegraphy, 14.
interest in the telephone, 107.
investments, 69, 108, 150, 151, 189-195.
joins the mail service, 41.
last letter, 344.
life in New York, 18.
logical candidate for President, 315.
loss of wife and son, 218, 219.
mail routing schemes, 54.
marriage, 46, 235.
middle years, 186-196.
offer from Japan, 80.
passion for baseball, 30, 32.
passion for driving, 149.
personalities, 289-302.
personalities and policies, 236-244.
president of Western Union, 246.
purchase of Roxbury property, 147.
purchase of Speedwell Farms, 175-177.
refuses presidency of American Telephone and Telegraph Company, 227.
reorganizes the Bell Telephone Company, 123.
resigns as general manager, 173, 175.
resigns Western Union presidency, 249.
retires as president of American Telephone and Telegraph Company, 329.
retires from active affairs, 185.
sale of South American interests, 221, 229.
school, 10.
settlement with Western Union, 138.
social life at Speedwell, 213-217, 252, 253, 286-288.

social gayeties, 14.
special assistant to general superintendent, 58.
study of medicine, 15, 16.
summons to Washington, 56.
taste for fiction, 12.
teaches school, 33.
the fast mail, 72.
thoughts of the ministry, 12, 28.
travel in Europe, 199, 219.
trying days, 131.
war service, 317-328.
wish to enlist, 16.
work on the farm, 27.
——, Thomas, 3, 4.
——, William Alonzo, 8, 24, 26, 27, 38, 39.
Vanderbilt, William H., 73, 74, 82, 83, 84, 85.
Vestibule platform, 73.
Voice with the smile, the, 241.

W

Wallack, Lester, 18.
War, World, telephone in, 309-324.
Waterloo, Iowa, 24, 25, 26.
Watson, Thomas A., 93, 94, 95, 96, 99, 111, 112, 123, 130, 159, 164, 261, 262.
Webb, B. B., 281 *n.*
Week-end cable, 247.
Welles, Alice, 286.
Wells, Thomas B., 221.
Western Electric Company, 119, 233, 234, 237.
Western Union Telegraph Company, 17, 102, 104, 129, 245-250.
White, Ash, 89.
——, Capt. James E., 59, 66, 88.
Williams, Charles, 93, 94, 99, 127, 164.
Wilson, Woodrow, 261.
Wireless telephone, 274-283.
Wires, underground, 168, 169, 170, 173, 174, 178-185.
Woolverton, W. H., 119.
Worcester, E. D., 72, 73, 82, 84, 85.

Y

Yost, Casper E., 49, 70, 230.

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